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Shadows and Straws

ANOTHER has written an appreciation of the etchings of Troy Kinney which are published in this issue. I have not yet read what he has to say, but I have no doubt that it will be well said and well worth the saying. Of what I have to say, I have not the same confidence. I think of dancing as the handmaiden of architecture, not because of the direct connection of line and form, which is the essence of design, but because I feel that people who know how to dance beautifully will know how to build likewise. For dancing is the universal sense of rhythm, out of which architecture was born.

I remember well when in London some years ago, an English architect said to me at luncheon, "Of course you are going with me to the Russian ballet tonight. It is the only thing to do. I spend every hour I can in worshiping these incomparable creations. They are the richest source of all my inspiration in design. Nothing approaches them in sheer beauty." To all of which I agreed, even though I do not design in the manner of an architect.

From the particular etching called "Swallows," of which I have the good fortune to possess a proof, it seems to me one might construct a thesis on the source of all Greek art. The academicians will not have it so, I know, but they really do not matter. The geometricians will think to prove otherwise by their charts and diagrams, but what of that? Who can prove anything, after all, in these matters? I prefer to evoke the image of that day without disturbing the patina—without lifting the delicate and exquisite veil through which are visible the immortal shapes of gods and goddesses,

> "In what ethereal dances,
> By what ethereal streams."

And in this etching I am quite content mentally to make a picture—I confess it is my own—of the morn when Boreas found Oreithyia dancing beside the river Ilyssus and carried her away to Mount Haemas. Pausanias describes the event as he saw it carved on the memorial chest of Cypselas, wondrously fashioned of cedarwood, of ivory, and of gold, whereon the legs of Boreas bore the likeness of serpents, and Oreithyia was unwilling. But the ancient historians who wrote their tales in bronze and marble seem always to have been curiously unkind to Boreas, for he came of an eminently respectable family, at the head of which was Erectheus of templed fame, and so I prefer to think of him as I seem to see him in the "Swallows." Surely if there is one thing that one ought to be allowed to arrange to suit, it is a mythology!

Again, in the bronze bas-relief in the British Museum, found, I believe, on the island of Calymna, and which I have not seen these many years, I do not remember that Boreas had other than the shape of a god,—perhaps a little boisterous in keeping with the North Wind,—or that Oreithyia was less unwilling. But I prefer to believe that Kinney has unwittingly given a truer account of the episode than either of those long vainshed historians. The unwillingness in these cases always seemed to me to be more ladylike than genuine, and are we ever sure which one was carried off?

'Tis sadly true that the day of Grecian maidens dancing on the flower-strewn banks of rivers has long since passed, yet I have an idea that we are not like to get very much that is real or important in the field of art until the custom is resumed. A dull and stupid world has banished the dance, except in occasional exquisite remnants and reminders, such as may be seen for money in a theater, or the incongruous pursuit of rhythm to the tune of jazz, by which a great multitude seek food for the starving selves, of whose very possession they are so pathetically unconscious. The river banks that I have lately seen were dotted with the figures of men, sitting in melancholy ecstacy, and fixedly observing a motionless line. The humor of the situation seemed to lie in the probability that the fish were probably still dancing.

But if I wished—and I do—for a world made beautiful wherever it was touched by the hand of

man, I would begin by making the dance the first creative outlet of life. For rhythm is the only key after all. None other will unlock those long-closed moss-grown portals, whose very presence is never felt, as the restless stream of humans hurries by on its foolish, fevered, and forever unsatisfied quest.

'Twas Angus Og and the Thin Woman of Inis Magrath who spoke the truth about these things, as you will remember if you have read "The Crock of Gold." Also let us be very happy that Troy Kinney tells us the truth in the god-like etchings that he makes for us.

THE CONGRESS of the Building Industry to be held in Chicago in September, an account of the calling of which appears elsewhere in these pages, has a striking significance to the architectural profession. It will be an opportunity for architects to fulfill their role broadly in the interest of the industry, as they fulfill the same role more narrowly in the professional service of a client. Bored and disillusioned as we may be with the endless conferences and congresses, the eternal talk of small minds, the perpetual effort on the part of selfish interests to seize upon every organized activity as a tool for their particular advancement, the brutal fact stares us in the face that only by a common impulse to know the truth can the building industry ever be rescued from the impossible situation in which it now finds itself.

Therefore it is hopeful that the call for the Congress announces the purpose to be the finding out of the truth about the building industry. It will be no easy task, because most people do not wish to know the truth. Also, there will no doubt be others in the industry who will not like the truth to be known. Yet it will be the height of folly to suppose that the different vocations in the building industry can be brought into any harmonious relation until they know the truth about the industry they serve. And first of all, they will have to discover what so many fail to realize at present, that the building industry is in no way controlled by those who serve in it as workers and technicians. There are struggles for control, it is true, on the part of many, but the forces which they fail to take into account are too strong to be dominated by any one interest. In the last analysis the building industry is at present a chaotic scramble—a ship that has passed almost entirely out of the command of its officers and crew, and which has been left floating aimlessly before the winds of chance.

It is the architect's opportunity, throughout the United States, to use his professional knowledge and skill in bringing to light the whole truth about the building industry, the methods and practices by which it strives to function and the external forces which continually prevent it from becoming an effective instrument for the common good. —C.H.W.

The Crisis in Architecture

By ARTHUR J. PENTY

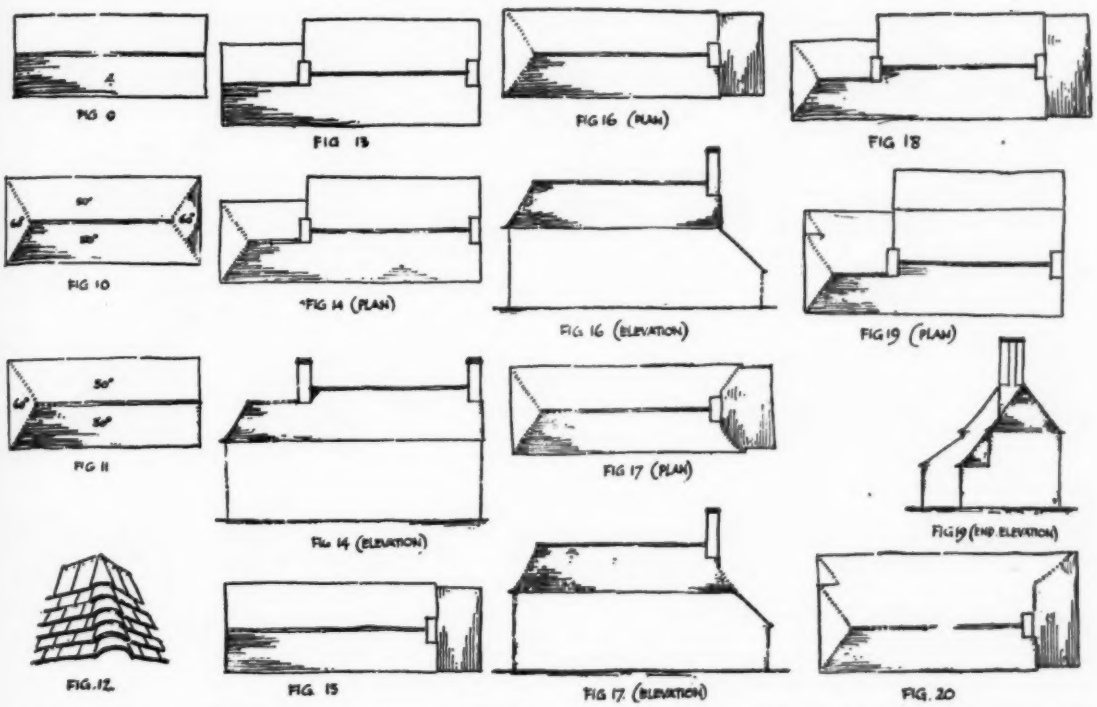
V. A THEORY OF THE PICTURESQUE—continued

IN THE OLD English villages the typical detached cottage is long and narrow, one room thick, by which I mean that the principal rooms go from back to front and are generally lit from both sides. Though the plans of these cottages vary, Fig. 8 would be typical of many of the simpler ones.

Houses of this kind would be roofed by a single pitched roof which might be anything from 14 ft. to 20 ft. span. They are rarely less or more than these lengths. Such simple roofs may terminate in different ways: with a gable at either end, as in Fig. 9; with a hip at either end, as in Fig. 10; or with a gable at one end and a hip at the other, as in Fig. 11. The first of these is most general. The second and third are unsuitable for building with stone slab roofs because of the difficulty of treating the hip satisfactorily. The third is, I believe, peculiar to the south-east of England, and is the most beautiful arrangement of all. This type is the unit from which the picturesque roofs in these villages are built. The alternating gable and hip is the secret of their charm.

Another peculiarity of these roofs, which gives them such character, is the custom of making their hipped ends 10 degrees steeper than the main pitch of the roof proper. Thus the pitch of the latter may be anything from 50 to 55 degrees, while the pitch of the hipped ends would be from 60 to 65 degrees as the case might be. I might add that special hip tiles are unnecessary in such a case, for the conical or granny-bonnet hip tiles, as in Fig. 12, will cover a 10 degree variation of pitch, and the adjustment will be unnoticeable. In cases where pantiles are used, the hip is made with a ridge tile, and the roof must be very

FIG 8



simple in design. Pantiles make a very beautiful roof, but those on the market today are too big and destroy the scale of small buildings. If made smaller, they could be more widely used.

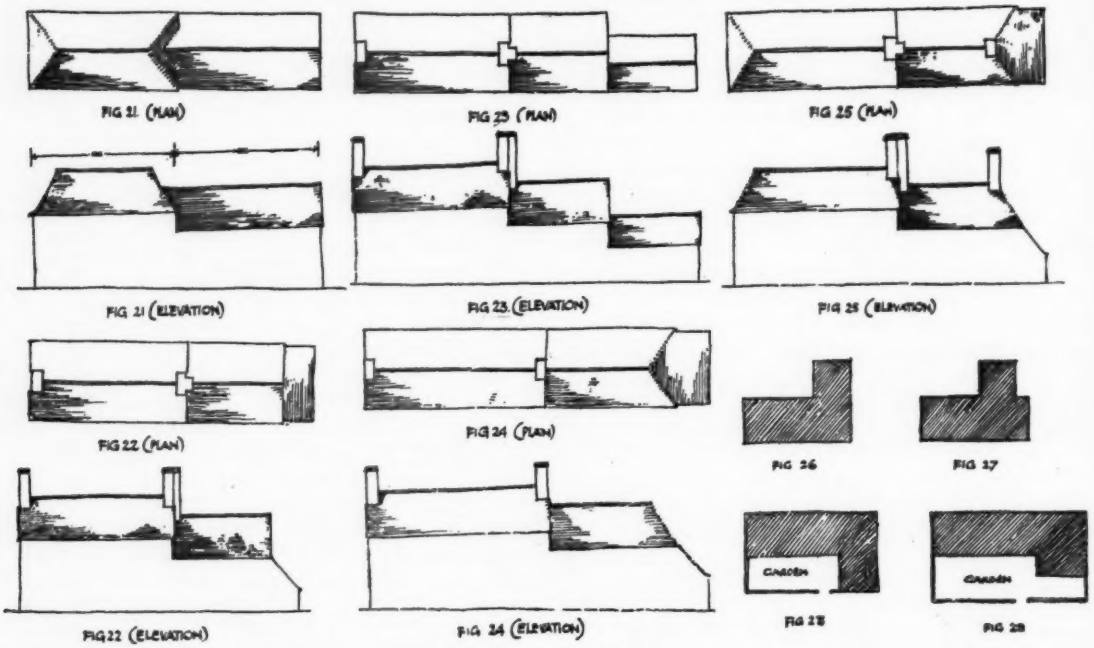
The old roofs were invariably long and narrow. The old builders rarely thought it necessary to introduce any variation from a perfectly plain roof, to break it up in any way until a building had attained to certain dimensions, for they knew the value of a long unbroken roof line. Roofs of smaller dimensions, which most old ones were, came thus on plan to be simple parallelograms with one single ridge, like Figs. 9, 10 and 11. It was because the old builders refused to break the roofs for small buildings that their designs were invariably good in "scale." Lack of "scale" is a great defect of modern work. Most architects crowd their designs with too many features. The old builders knew better. They always aimed at breadth of treatment. In the case of small houses, they sought wherever possible to build in groups in order to get broad simple effects. Modern houses in the suburbs are more and more being built separately, in order, it seems, to get as many features as possible. But it is a mistake.

When such houses or group of houses exceeded a certain length, they were in certain positions varied, as shown by Figs. 13 and 14. Also the old builders were very fond of combining the long narrow roof with a gable at both ends, or a gable at one end and a hipped end at the other, with a lean-to at the gable end, as in Figs. 15 and 16; or they carried the lean-to higher, making it intersect the lower part of the gable, as in Fig. 17; or again they used some combination of these, as in Fig. 18.

Generally speaking the old builders avoided breaks in the wall line. Where they made such breaks, it appears to have been for roof effects, as is evidenced by the fact that in such cases as are illustrated in Figs. 13, 14, and 18, the break occurs on the back elevation. If they required more accommodation on the ground floor (for strange to say they were satisfied with very little bedroom accommodation) they added a lean-to at the back of the house or carried the roof down, making a "cat slide," as in Figs. 19 and 20.

Then they were very fond of making one part of a roof higher than the other, either by putting some of the bedrooms partly in the roof, or by taking advantage of a rise in the ground, as in Figs. 21, 22, 23, 24, and 25, or by any combination of these ideas that might suggest itself. In such circumstances care was always taken that the ridges should be of unequal length.

So far I have dealt with the types of roofs suitable for houses that were long and narrow. By combining these in different ways and varying the proportions between the different parts, they could be multiplied almost indefinitely. The custom in the



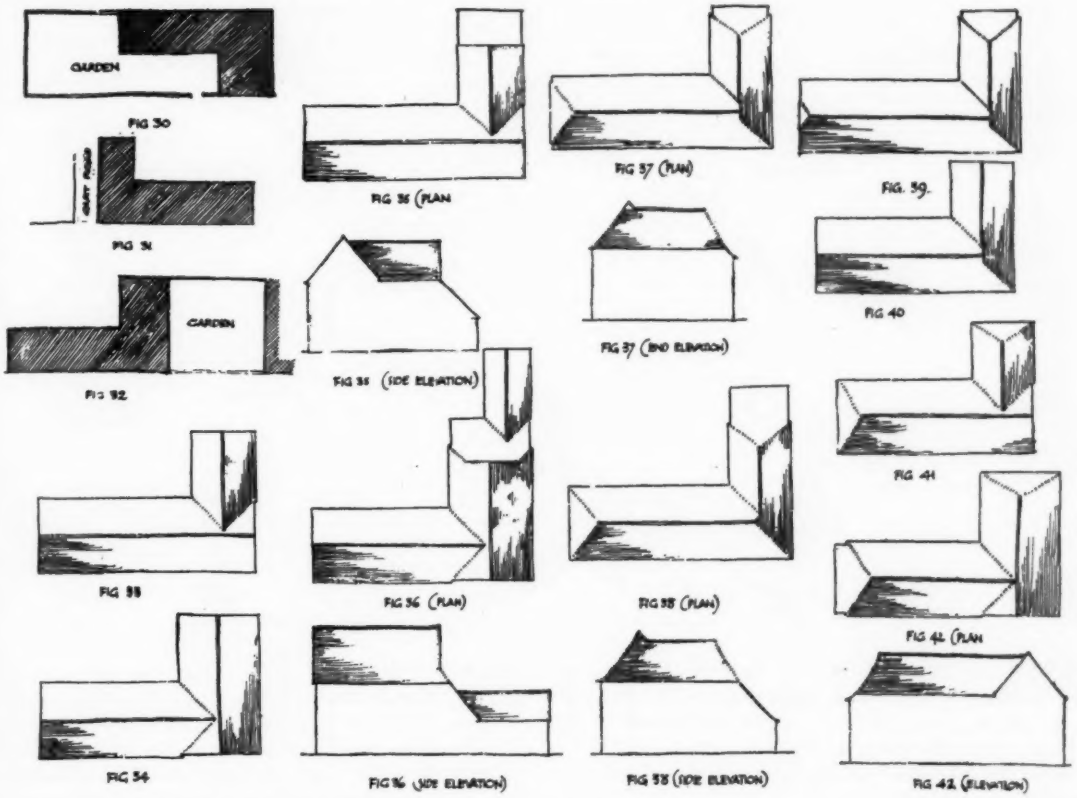
past was to adopt the long narrow type of plan wherever possible and to depart from such a plan only after a building had attained to certain dimensions and where special circumstances of site suggested some other arrangement. Nine out of ten of the picturesque old houses are nothing more than parallelograms on plan.

The first departure from the long parallelogram type of plan was the L shaped one, which, next to the long narrow plan, was the most popular. When the L shaped plan is used, one arm of the L is invariably much longer than the other, and generally wider, in order that one arm may be subordinated to the other. Furthermore, the old builders did not make a break in the line of the wall at the junction of the arm. Fig. 26 shows the L plan as used by the old builders; Fig. 27, that generally used by modern architects. This variation by architects of today is due to the fact that their minds are occupied more with the secondary details than with the big fundamental ideas. If you ask most architects why they make such breaks, they will say that they want something against which to stop the eaves. Such considerations did not affect the old builders who realized that every such break, by dividing up the wall space, tends to destroy breadth in design; and so they sacrificed secondary considerations to primary ones. When we get the same grip of fundamentals, we shall do the same.

The next point to observe is that the old builders did not use the L shaped plan in the fanciful way which obtains today. They never departed from the simple parallelogram except for some difinite reason. Perhaps it was a corner site that suggested such an arrangement; or the site was restricted and it was impossible to secure the necessary accommodation in any other way. When the L shaped plan was used for detached farm houses where no such considerations could be urged, the old builders invariably sought to complete the parallelogram by means of a garden enclosed by walls, as shown in Figs. 28, 29, and 30. In the case of an L shaped house or group of houses appearing in a village street, it might be that a cart road at the side gave some justification, as in Fig. 31; or perhaps the aim was to secure a garden at one end, as shown in Fig.32. It is true that in every case the departure from the simple parallelogram was justifiable, and was not simply a matter of whim or fancy.

We may now pass on to consider the various ways of roofing L shaped buildings. Of these the simplest are those which use gables only. Figs. 33 and 34 represent the alternatives. Variations of this arrangement can be made by adding a lean-to to one of the wings, as in Fig. 35, or by adding a smaller roof at a lower level, as in Fig. 36. Variants of this arrangement can be multiplied. The point to remember is to make one roof dominate.

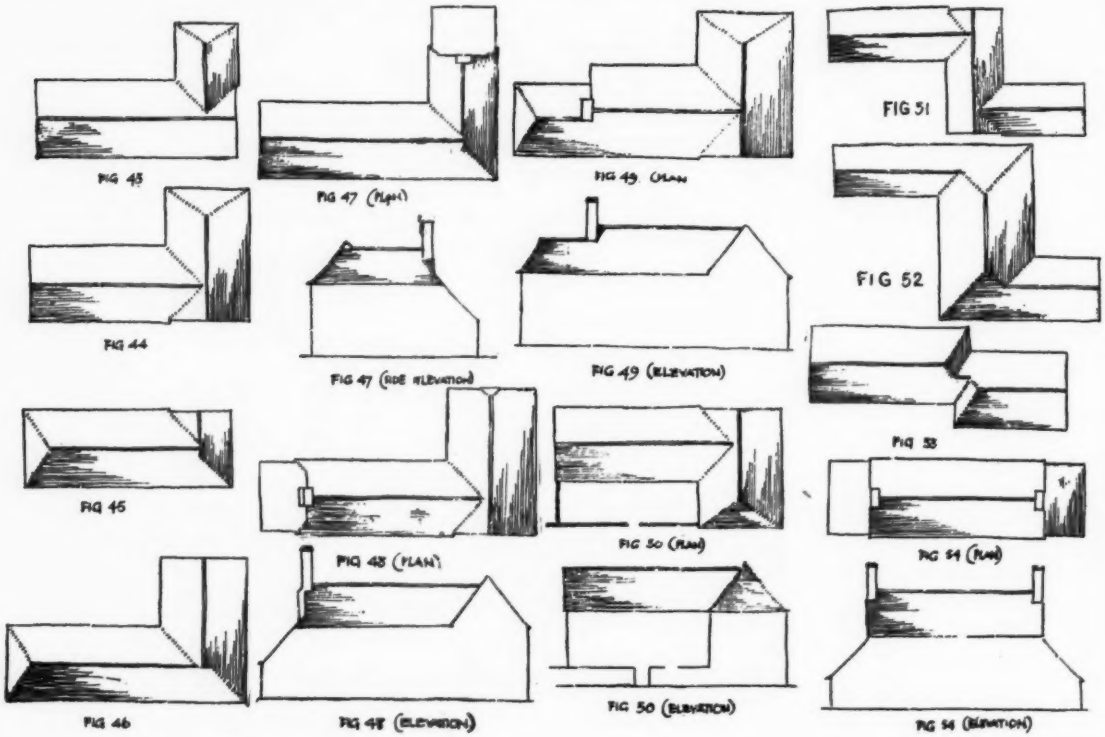
Then there are the roofs in which hips only are used, as in Fig. 37. Interest is added by slight deviations from true hipped ends, as shown. This arrangement admits of still further variations. For



instance one of the hipped ends might be carried down as a "cat slide," as in Fig. 38; or a hipped gable may be substituted for one of the hipped ends, as in Fig. 39. Variations of this kind which prevent an exact repetition of the extremities are common. Sometimes a small gablet (generally plastered and finished brown) is introduced at the angle at the apex of one of the roofs, as in Fig. 37, in order that a mitered ridge may be avoided. At other times the mitered ridge would be avoided by making one ridge the depth of a ridge tile below the other. The ridge tile in all cases would be half round or hogs back section.

The most interesting L shaped roofs are those in which the hip and gable are combined. There are various ways of doing this. Sometimes a hip is placed at the angle with gables at the extremities, as in Fig. 40. At other times the gable is placed at the angle, while the hips are at the extremities, as in Figs. 41 and 42; or one of the roofs may have a gable at each end, and the other be hipped, as in Figs. 43 and 44; or the main roof may terminate with hips at either end with a gable at right angles, as in Figs. 45 and 46.

Further modifications of these arrangements are suggested by Figs. 47, 48 and 49. Fig. 47 shows Fig. 40 modified by making one roof span narrower than the other, with the addition of a "cat slide" at one end. Fig. 48 shows a similar modification of Fig. 42; while Fig. 49 shows how Fig. 44 could be amended by the incorporation of an idea from Fig. 14. I might go on multiplying such variations; and it is quite easy once the principle is understood that a gable at the angle involves some kind of hip treatment at one of the extremities, if not at both, and that a hip at the angle involves gable treatment of some kind at one of the extremities, if not at both. It always adds to the interest if the gables or hips are not exactly alike, though they may be nearly so; while, moreover, it is important for one roof to be subordinated to the other. Once these principles are grasped it is possible to keep on making variation after variation. The addition of a projecting porch to any of the plans with either a hipped end or a gable would alone quadruple the possibilities of most of them, while dormer windows add an additional variety. And here I would add that while a dormer with a pitched roof and hipped end is the prettiest of all treatments, it is not advisable to adopt such a treatment if there are many dormers on a roof, for it



will be too crowded. In such cases flat roof dormers are to be preferred.

Fig. 50 illustrates a very effective roofing of the L shaped plan which is sometimes found at the juncture of roads. An interesting variation that can be used only in exceptional circumstances is the Z shaped plan. Figs. 51, 52 and 53 give different examples of this.

Then there is the symmetrical treatment of roofs. Fig. 54 shows an ordinary pitched roof with gables and lean-tos at either end; Fig. 55, a hipped roof with the hipped ends carried down as cat slides; Fig. 56, a pitched roof with flanking gables, and Fig. 57 shows the gables carried down as cat slides. Attention should be drawn to the fact that the end elevations of Figs. 56 and 57 are not symmetrical. The departure from strict symmetry destroys the mechanical effect they would otherwise have.

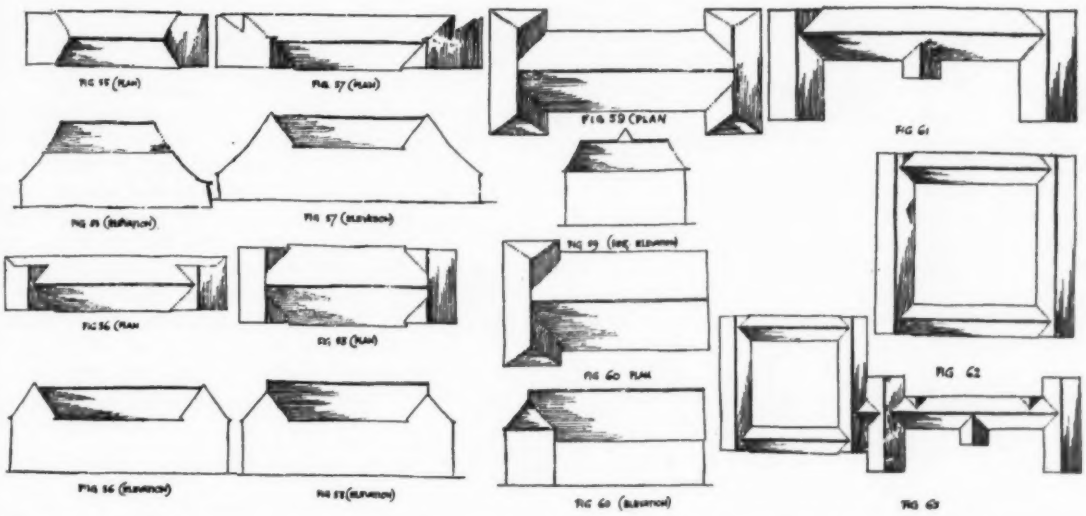
A very pleasing form of roof for buildings two rooms thick is the long roof of wide span flanked by gables of narrow span, as in Fig. 58. This is done in order to reduce the apparent scale of a very large roof. In such cases the connecting roof, where it rises above the flanking roofs, is finished with a gablet. It is never hipped, as generally happens today. The gablet makes a world of difference, and gives distinction to a roof which otherwise would be commonplace. The gablet is generally plastered and finished brown. Sometimes the flanking gables are brought forward and are gabled or hipped. Fig. 59 shows them when hipped.

At times one of these flanking gables is omitted, and in the case of the main roof's being a very wide one, the eaves of the main roof are placed at a lower level than the eaves of the flanking gable, while the ridge is above as before. The idea in each case is to preserve the scale by making the flanking roof narrow. Fig. 60 gives an example.

Now we come to the E shaped plans which found such favor in Elizabethan times. Fig. 61 shows the simplest example of such a one. There is no need for me to multiply examples of these as they are to be found in abundance in architectural literature.

Then we come to the quadrangle, the simplest form of which is given in Fig. 62. Here again I do not propose to give further examples, as architectural literature is full of them, and, as architects are not so prone to go astray in large buildings as with small, it is unnecessary for me to do more than note them. Mention should be made of the combination of the E shaped plan with the quadrangle, which has so often been used in large country houses of our day. Fig. 63 gives an example.

Here and there the hipped gable is to be found on



small houses; and when used occasionally just to take off the apex of a gable above the top purlin it may be used successfully. But generally speaking I am of opinion that it should be used only on roofs of large dimensions, and rarely ever for a roof of less than 25 feet span. It is very effective on high buildings and on old barns, but it is necessary to be very cautious in using it. The home of hipped gables is South Germany. But the roofs there are very wide, a 60 foot span being by no means uncommon. Modern ideas of hygiene do not permit us to use such large roofs for domestic purposes, owing to the difficulty of lighting the centre of such buildings. Something of the same kind is to be said about Mansard roofs, which are not generally available in domestic work. They have been very effectively used in old flour mills and warehouses, while in a certain type of Georgian work they have been used successfully behind parapets. In each case, very wide spans are needed to make them effective. When used without parapets, a building needs to be very high and of considerable dimensions to carry them off.

Let us pass on to consider the decline of roof planning. It is to be attributed to the influence of the reaction of the grand manner upon the vernacular architecture. Fig. 63 illustrates the stage of decline. It shows how the long narrow roof plan of the house one room thick, which was the basis of the old roof plans, gradually gave way to the type which forms the basis of the roof plan of the suburban villa of today. For even in this type of roof the tradition is continuous. The average architect, tired of the monotony of the roof of the Italian villa period which approximates to a square on plan and is hipped on all sides, seeks for variety, not by returning to the fundamental and primary ideas of roof planning of the past, but by adding features culled from the architecture of an earlier date. The result is confusion. It produces a type of architecture that is born of boredom and ends in it, since the more the architect of today seeks to be different from his brother practitioner, the more he is like him. And so things will remain until the inward laws governing the picturesque are fully comprehended.

The great majority of old roofs in England will be found to approximate the types I have described, and

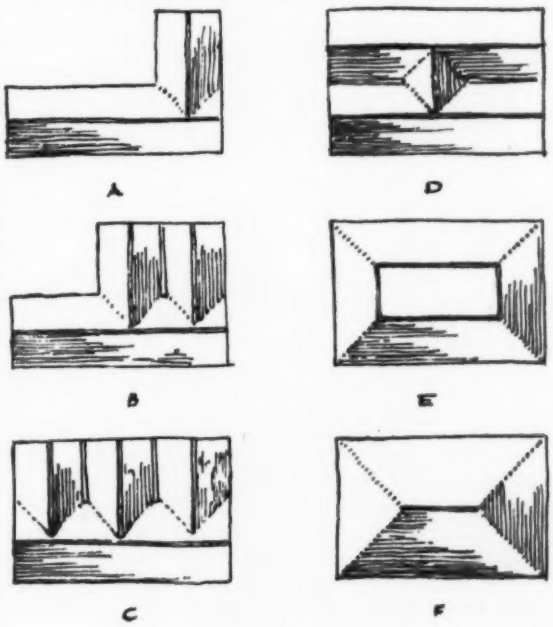


FIG 64

he theory I have enunciated will account for 99 per of old buildings. But dotted about the country there are to be found roofs, odd in shape, which elude classification, and which appear to owe their existence to the whim of their designers rather than to any tradition of roof planning; though doubtless the existence of such a tradition kept such eccentrics within range of sanity. It is to be regretted that in our day the idea of the picturesque has become too closely identified with such exceptional buildings, for it has obscured the existence of a great tradition of design that is as sane and rational as Greek architecture, though fortunately not so circumscribed and hidebound. It is with the hope of creating an interest in this tradition, which will well repay further investigation, for I have dealt with only some of its more fundamental qualities, that I have written. For just as I believe that any widespread revival of architecture depends finally upon the revival of its lower branches in ordinary building, so I am persuaded that the secret of design in all such building is to be found in a comprehension of the principles of roof planning. If we clearly understood these principles, we should begin to make rapid advance, for there would be something aroused which our thinking could crystallize. We should find it easy to do the exceptional things, if we understood more clearly how ordinary things should be done. The gulf between architecture and building would be gradually bridged, for the higher forms of architecture would become more flexible as they became organically related to the lower.

The Dance and Architecture

What have etchings of dancers to do with architecture? Why publish them in the JOURNAL?

In a preface to a catalogue of Troy Kinney's etchings, Mr. Robert J. Cole says:

> "In etching Kinney found a medium at once delicate, swift and strong. He could scratch into his plate the very brutality of Bolm's warrior stride; or draw *The Seventh Veil* from beauty as though by the warm breath of an oriental afternoon.
>
> "His dancers are seldom in repose. It is rhythmic movement that he seeks and captures * *
>
> "But in learning how to represent the dance truly, the etcher has made no compromise in his own technique. Indeed, the difficulties of telling the truth revealed in these complex rythmic fugues has forced an intensive development of his medium. It is free expression that he seeeks, a harmony and happiness of design that shall lift the beholder into a like harmony and happiness of mood."

It is just for this reason that architects should rejoice at the opportunity of studying Kinney's etchings. He has given us not so much pictures of posed dancers or of dance poses, but the dance itself; given it to us through the medium of the etched line, a hard line at best. Architects primarily should give us buildings and not drawings of buildings; buildings which tell us something of their use and purpose and why they were built. Their drawings should speak to us in three dimensions, in light and shade, and in color. Kinney gives us flesh and blood, life, action, music, color,—all with an almost unbelievable economy of line. Surely then the architect should be able to give us the message of mere stone and brick and wood by the use of the line.

By looking at these reproductions in the JOURNAL, perhaps we can learn from Troy Kinney something of how to do it.

B. J. L.

The Handbook of Architectural Practice

Announcement of the forthcoming publication of the Handbook of Architectural Practice is made in the advertising pages of this issue. Begun and brought nearly to completion by the late Frank Miles Day, the work has been finished under the guidance of Milton B. Medary, Jr., and Edwin H. Fetterolf, of Philadelphia, who were the collaborators with Mr. Day during the time when he was actively engaged in the preparation of the work.

The Handbook is quite the most important book of its kind ever offered to the architectural profession, for it contains the result of many years of careful study, of a painstaking analysis of the methods of office practice used by the leading architects of the United States, and suggested forms for use in many of the important steps necessary in all building undertakings. As a book of information for acquainting the client with the nature of an architect's duties, as well as for informing a client as to his own responsibilities, the Handbook is certain to be used freely by architects who realize the opportunity it affords.

Sophie Pflanz in the Dance of the Jewesses, Cléopatre
After the etching by Troy Kinney

NYMPH
After the etching by Troy Kinney

"Viva Andalucia"
After the etching by Troy Kinney

Pavlowa in the Carmen Ballet
After the etching by Troy Kinney

Adolph Bolm in Prince Igor
After the etching by Troy Kinney

ALLEGRO
After the etching by Troy Kinney

SWALLOWS
After the etching by Troy Kinney

Tortola Valencia
After the etching by Troy Kinney

The Greater Paris Competition

By NILS HAMMARSTRAND

I. The Problems

SOME of the most important of the city planning problems of Paris have long been the object of investigation and discussion; preliminary projects had been framed before the war with regard to improvement of street plan, creation or reservation of public open spaces and provisions for better harbor facilities. At the outbreak of the war, operations on a considerable scale, aiming at the opening up or widening of streets had even been begun, as explained by the writer in previous articles.* Several new subway lines were at that date in course of construction, and additional lines had been planned, while a better and increased water supply and the destruction and rebuilding of unsanitary quarters were being considered. For the housing problem, additional construction, on a rather considerable scale, of low-cost houses for workers was being planned by the municipality. Finally, the negotiations between the city and the state regarding acquisition by the former of the fortification grounds had been resumed, and an agreement seemed near. The difficulty in arriving at an agreement had in reality long been an obstacle to that comprehensive handling of the city planning problems of greater Paris, the necessity of which had become increasingly evident.

Since then, events, while temporarily checking or retarding effort, have made this necessity even more obvious, even though they have given rise to new and greater difficulties, which are foremost of an economic or financial nature,† into the details of which it is not proposed here to enter, although some figures apt to throw light on this aspect of the matter, will, however, be quoted in the following.

The Housing Problem

The housing question claims, above all, our first attention. In preceding articles the writer has dealt at some length with Paris' housing problems, pointing out that the pre-war municipal activity in this connection fell very far short of attaining any solution, and that it was, perforce, limited to the erection of low-cost houses within the city boundaries, where, owing to the high land values, only the construction of multiple dwellings was possible. During the war departmental agencies entered into action, and several garden suburbs were planned in the outlying suburban areas. Continuation of this activity, on a larger scale, will depend on the financial support of the State from whom subventions to the amount of 2,000,000,000 francs have been asked for this purpose. The interests of the city and of the Department of the Seine have thus become identified, and it has been avowed that the housing problems of Paris are principally to be solved in the suburban areas, chiefly in the outlying ones. Thus the greater Paris of the future is actually in process of being constituted; the whole urban agglomeration, the adjacent territories and the neighboring towns are beginning to be looked upon as one sphere of interest, as a "conurbation," in reality undivided by inner boundaries.

In recognition of this, the modern city planners' point of view, the authorities of Paris launched last year the Greater Paris competition, and now that the city is facing the necessity of another great "improvement loan"—of at least 1,500,000,000 francs—it is being declared that this loan ought to be a departmental one, "as the interests of the suburban regions are absolutely inseparable from those of the city, especially in the matter of public improvement."*

In reality the suburban regions are, in an even greater degree than the city, in need of this coordination of interests and of obligations. In several of the suburbs, housing conditions are worse than anywhere in the city, and the suburbs possess neither the organization nor the economic power which would enable them to handle their own housing problems independently in a satisfactory way. Statistics of tubercular and general mortality in certain suburbs of Paris speak a language not to be misunderstood, for while according to the census of 1911, the general mortality in Paris proper was 17.1 per thousand, it was 21 in the rest of the Department of the Seine,† and in all of the 78 communities outside Paris, except one, the general mortality was higher than in those two arrondissements of Paris where the housing conditions are the best.

Before the war, the city was authorized to raise a loan of 200,000,000 francs, to be spent in building low-cost, sanitary houses for workers. In the light of the conditions above illustrated, which have been greatly aggravated in consequence of the war, the recent demand of State credits in the amount of 2,000,000,000 francs for similar purposes seems well justified. Similarly, while 15,000,000 francs was assigned before the war to the purpose of demolishing unsanitary quarters in the city proper, 150,000,000 francs are now being mentioned as representing the immediate need. This expenditure is planned especially for fighting the ravages of tuberculosis. Evidently, in this case as in the other, the decupling of the sum indicates not only changed economic conditions, but also a very much aggravated hygienic danger.

Thus, on one hand we find social evils of the gravest nature, graver than ever, demanding to be dealt with through constructive action on a large scale without delay; on the other hand, we see greater obstacles than ever offering resistance to such action, the increased cost of labor and of materials and the high land values uniting to make the task a very difficult one.

The situation is still more aggravated—one may hope only temporarily—through the fact that French cities do not have the right of expropriating land for extension purposes. In this respect, French legislation is behind that of England, Germany, and several other European countries.

*JOURNAL of the American Institute of Architects, June 1918, February 1920.

†See the Rapport général sur le projet de budget supplémentaire de 1919 et le projet de budget de la ville de Paris pour 1920, par M. Louis Dansset, conseiller municipal. (Conseil Municipal de Paris: Rapports et documents, 1920, nro 109.)

*Rapport général sur le projet de budget pour 1920, p. 28.

†For a comparison, it may be stated that the general mortality in Greater London, according to the latest available figures, is 13.1 per thousand.

THE GREATER PARIS COMPETITION.
Proposed Park Extensions Southward. A. Agache, J. Auburtin, A. Parenty, E. Redont, Second Prize Winners, First Section.

But work of decentralization, according to methods promising satisfactory results, will at all events have to be begun and carried through, and here the important problem of improving the suburban communications presents itself.

Local and Suburban Communications

In a recent publication by M. Henri Sellier, member of the General Council of the Department of the Seine, the insufficiency of transportation to the suburban areas of Paris is being strongly emphasized, and the author does not hesitate to declare that "the defective organization of the public means of transportation in the Department of the Seine is responsible for a situation troublesome in every respect."* Nor can there be any doubt that the defective conditions of transportation constitute at least one of the main factors which have hampered the development of Paris. We see this confirmed by the results of the Greater Paris Competition, in which the ablest of the competitors spent their best efforts on the problems of communication, as we shall see later. The service which the suburban lines of communication now offer is far from answering the needs. Suburban tramways especially built for rapid transit will have to be constructed, and part of this function will have to be cared for by improved steam railways and extended subway lines.

The latter are now the chief means of "inner transportation." Their present importance may be estimated by the fact that they transported about 625,000,000 passengers in 1919, as against 395,000,000 in 1913. The lines in operation have a total length of 92 kilometers. Additional lines, aggregating 51 kilometers, are in course of construction. They will complete the system as it was planned before the war, for which a loan of 240,000,000 francs was authorized in 1911. 100,000,000 francs have been raised and spent, but now it is estimated that the completion of the system will take at least 350,000,000 francs instead of 140,000,000.

Public Open Spaces

In touching upon suburban rapid transit lines, we have to emphasize their particular importance with regard to overcoming those distances which separate Paris from some of the invaluable parks and forests in its neighborhood. The parks of Versailles and of St. Cloud, the forests of Marly, of St. Germaine-en-Laye, Meudon, Verrieres, Bondy, the Bois des Fausses Reposes and the Bois Notre Dame are all situated in the suburban areas, even if most of them are totally or partially outside the Department of the Seine. The beauty of some of these parks and forests is world-renowned; their aggregate area is much greater than the area of Paris; it remains to make their accessibility more commensurate with their beauty and their size.†

That the now existing suburban parks and forests should be preserved has, of course, been recommended by the competitors, some of whom also have proposed to develop other outlying areas into parks. Attention has also been paid to the difficult problem of creating new open spaces in the interior of the city. That the provision for a number of small parks and playgrounds in the most populous parts of the city is desirable, can scarcely de denied. Fortunately, recent legislation regarding expropriation on account of unearned increment and regarding excess condemnation in the interest of public utility will greatly help to make operation of this kind less onerous. Besides, the city will gain possession of the military barracks within the fortifications, according to the convention approved by the law of April 19, 1919, regulating the future use of the fortification grounds, and of the military establishments and at least some of the grounds now occupied by barracks might be transformed into parks and playgrounds.

Transformation of the Fortifications

To compensate for the cession of the old military barracks by the State, the city will have to build a number of new barracks and a military hospital, partly on the transformed fortification grounds. According to the agreement the city will gain possession of 305 hectares of these grounds which in their totality measure 444 hectares. On one fourth of the grounds acquired by the city, low-cost houses will have to be built; the building plots within the remainder of this area, the city may sell. If this convention is upheld, one may thus expect to see the greater part of the area of the old fortifications exploited in building many-storied apartment houses, ranging from the most expensive dwellings on the west to the municipal low-cost tenements, chiefly on the east. In all probability, detached family houses will be built only on a small fraction of these grounds, if at all. The area remaining in the possession of the State is in part already occupied by public establishments, in part exploited by various railway lines; the remainder will, as already mentioned, be reserved for the erection of the military barracks.

Immediately outside the fortification girdle, the glacis formed a zone, 250 meters wide, for military reasons kept free, or almost free, from permanent buildings—the so-called *zone non ædificandi*. Some public buildings have been erected in the zone, which also to a great extent has been covered by all sorts of temporary structures serving various uses, among which are many miserable shacks sheltering human beings. It has been decided that the entire zone shall be expropriated and be transformed into public parks and playgrounds, exception being made in regard to certain parts which now serve or will have to serve other public uses. Besides the land needed for public roads, railways and existing schoolhouses, an area of 15 hectares, south of the Bois de Boulogne, will be set aside for the purpose of erecting, in a garden setting, a vast building for horse shows and agricultural exhibitions.

A park girdle thus created around Paris would, so to speak, monumentally commemorate an old city limit, as the "Grands Boulevards" already commemorate one, and the "Boulevards extérieurs," another. From a practical and even from an esthetic point of view, the value of the park girdle will no doubt be somewhat impaired through being intersected by many radiating arteries, for the surface traffic traversing this park region is, indeed, very great. In reality, the position of the zone is not a strictly peripheral one, but may be said to mark the limit of the actual

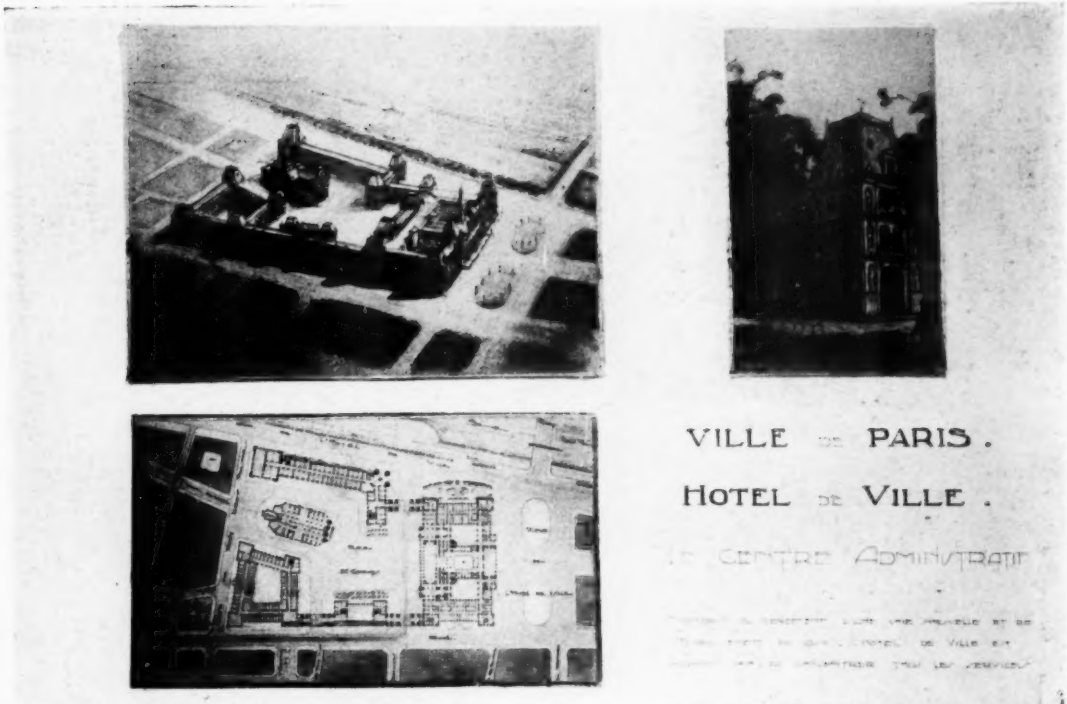
(*Continued on page 339.*)

*Henri Sellier: Les Banlieues Urbaines et la Réorganisation Administrative du Departement de la Seine.

†The forest of St. Germain-en-Laye alone covers 4400 hectares, while the area of the city within the fortifications measures 7800 hectares.

The Greater Paris Competition.

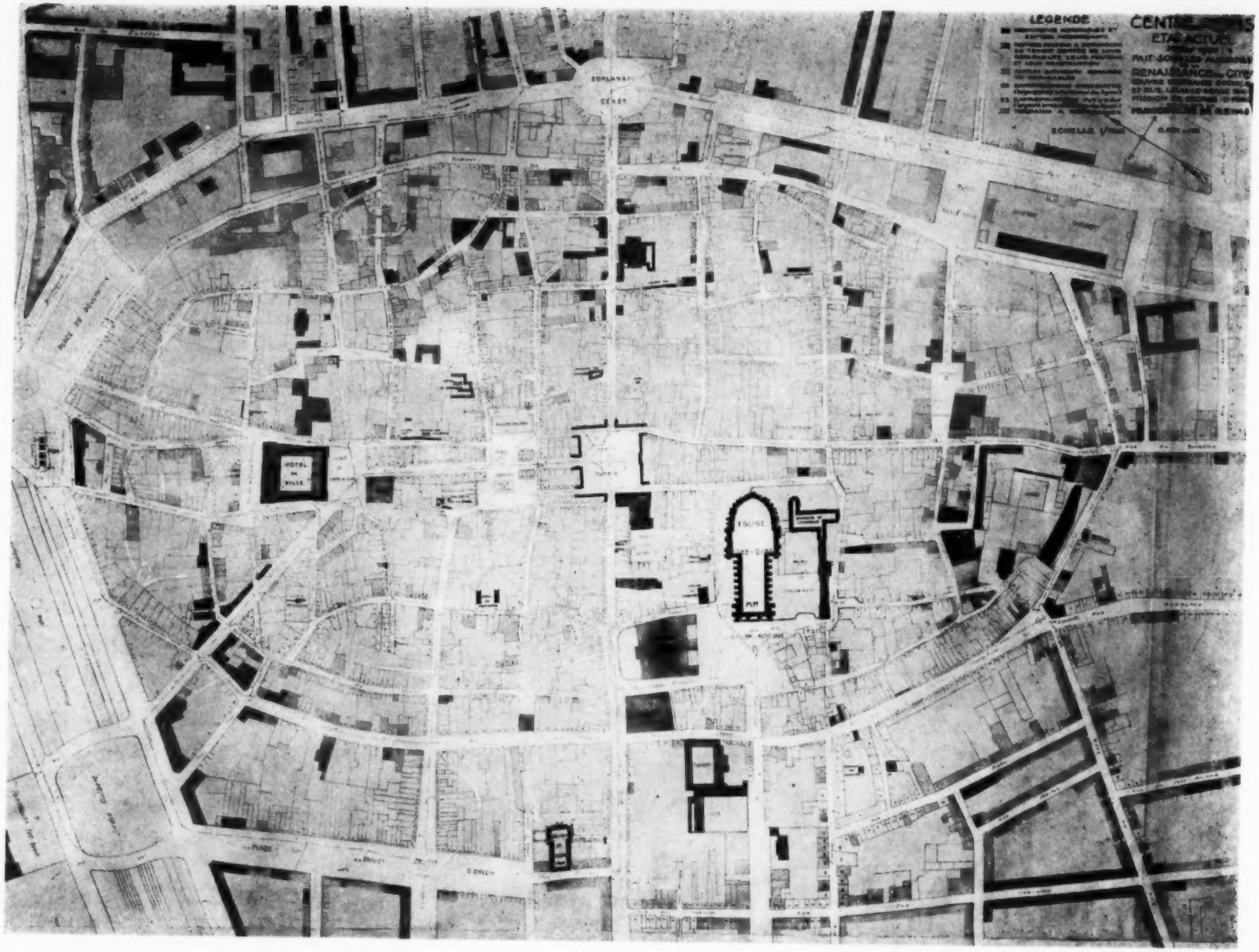
Proposed Park Extensions to the North and Northwest. A. Agache, J. Auburtin, A. Parenty, E. Redont, Second Prize Winners, First Section.



THE GREATER PARIS COMPETITION.

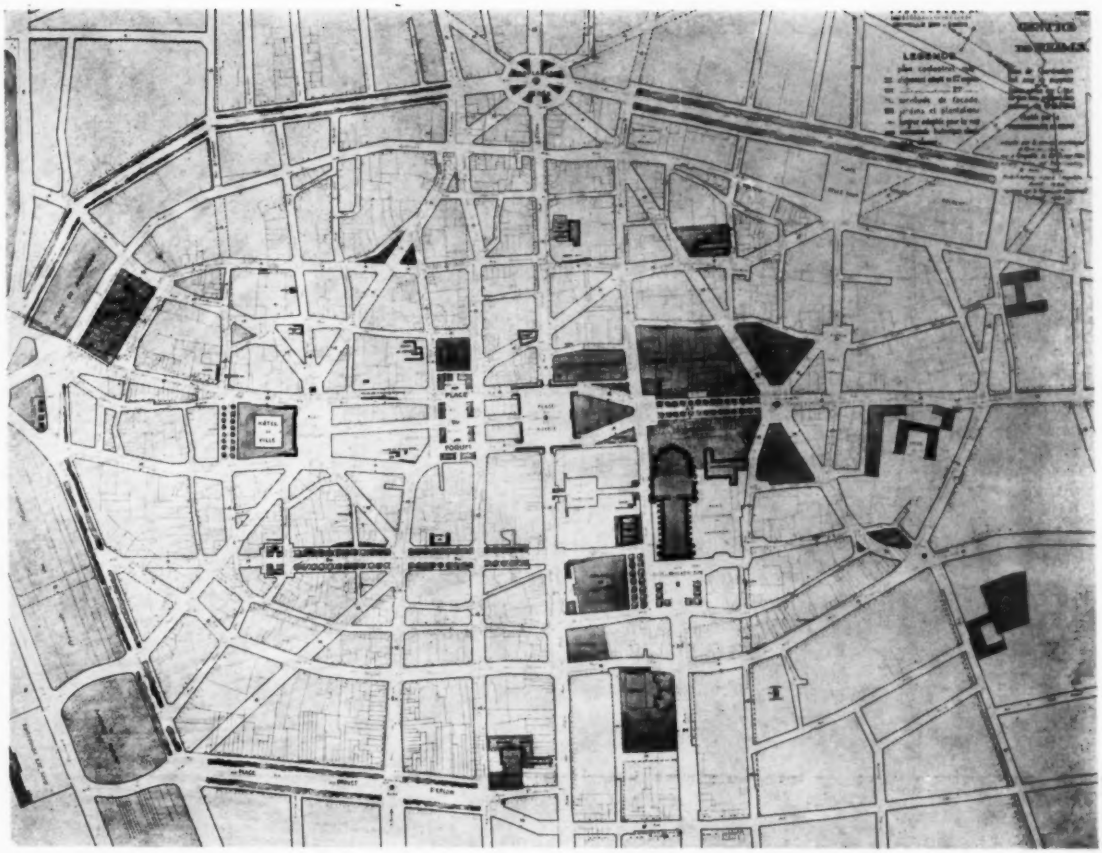
TOP. Proposed Enlargement of the Hôtel de Ville, Including the Piercing of a New Street, the Enlargement of the Quai, and the Enclosing of the Church of St. Gervais in the Courtyard. M. Coppin, Rewarded Project, Fourth Section.

BOTTOM. Proposed Monument on the Western Extremity of the Île de la Cité. J. Molinié, C. H. Nicod, A. Ponthier, Third Prize Winners, First Section; Second Prize Winners, Second Section.



RHEIMS

Plan showing the extent of destruction by bombardment. Profiles in black indicate edifices that must be restored or preserved. Those in lighter tone show buildings susceptible of reconstruction, while all the part in grey represents that which has been demolished beyond restoration.



Plan showing the extent of destruction by bombardment. Profiles in black indicate edifices that must be restored or preserved. Those in lighter tone show buildings susceptible of reconstruction, while all the part in grey represents that which has been demolished beyond restoration.

RHEIMS. The Plan prepared by George B. Ford, and formally adopted by the authorities.

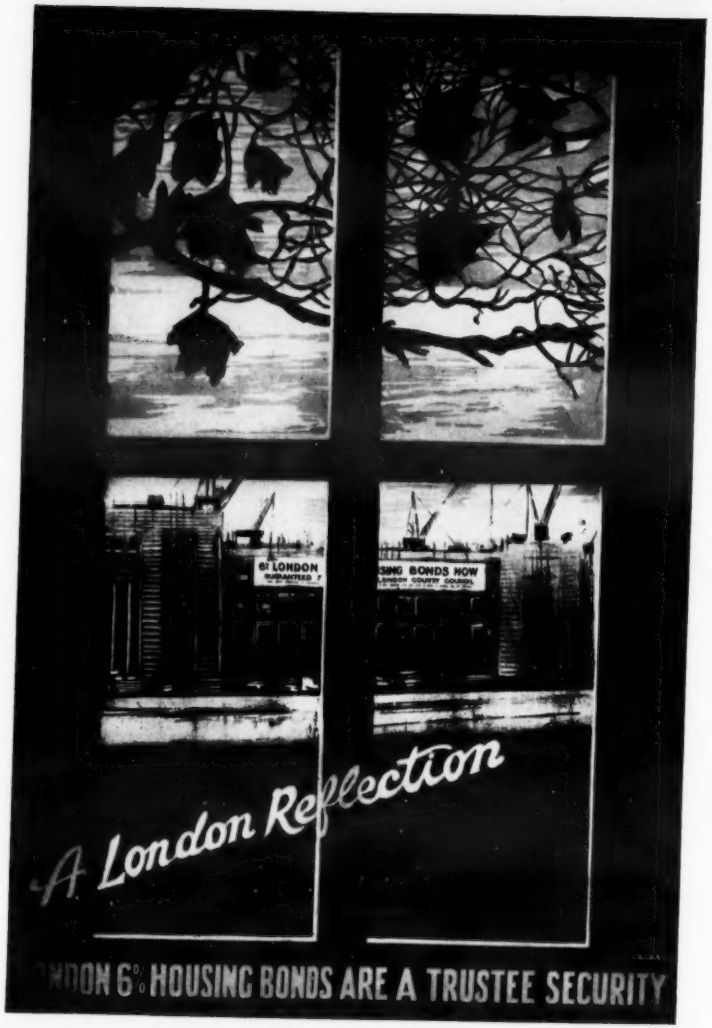
The Rebuilding of Rheims

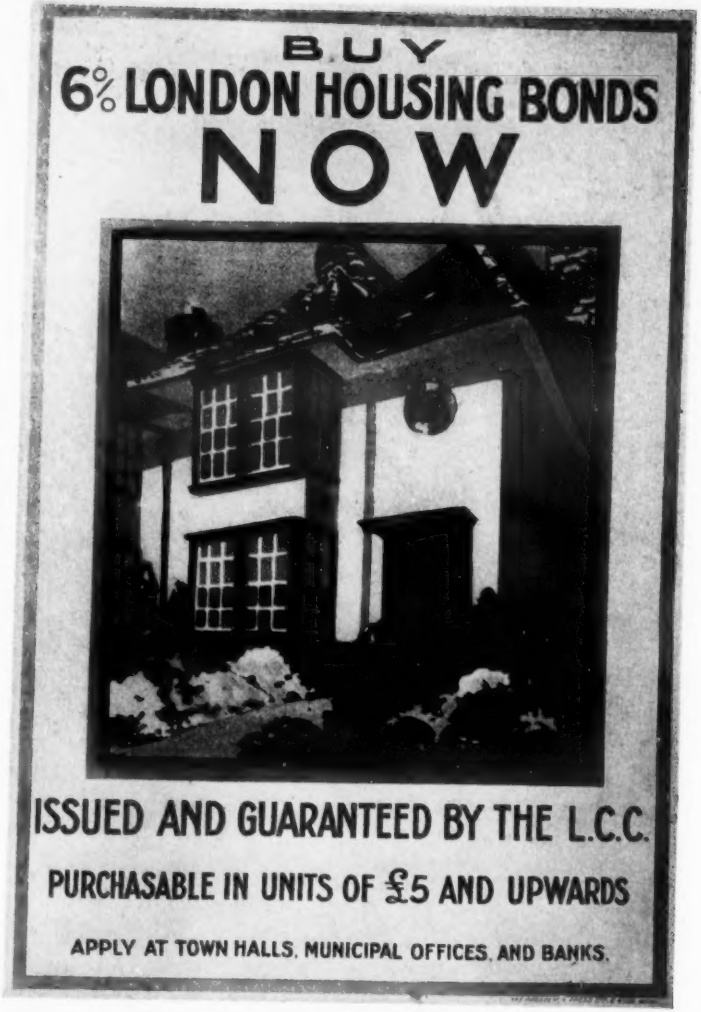
Of all the destroyed towns in France none claims a greater interest than the ancient city of Rheims. Very likely the interest centers about the cathedral, as is natural, but that is far from being the only importance attaching to this historic town. Indeed, modern as it was by comparison, the Hotel Lion d'Or, now utterly obliterated, will be a fitting subject for regret. But there were many other edifices of remarkable interest and in making a new plan for Rheims, these have been used as the point of departure.

Now, the new plan for Rheims has been formally adopted by the authorities of the city and by the Superior Town Planning Commission, which must, under the new law, approve all local schemes. The plan was prepared by Mr. George B. Ford, a member of the American Institute of Architects, who has been in France since soon after the outbreak of war. The history of the plan is somewhat unusual—it is not often that an American is to be found preparing plans for French cities—and, as is usual in town planning practice, no matter in what country it may be carried on, this particular plan had to run the gamut of property holders, vested interests, esthetic preferences, and practical considerations. Its final adoption is a tribute to Mr. Ford's long and patient labors.

Rheims is the most important centre of its region, has large manufacturing interests, and is today a city of probably something less than 100,000 people; Mr. Ford's plan envisages a future growth of three times that number. Some idea of the extent of the demolition and the resulting reconstruction problems may be gained from the fact that while it was thought possible that 30,000 persons could be housed in the 2,000 available houses,—all that were left of the original 14,000—the entire population of the city now dwells in those 2,000 houses.

The general scheme of Mr. Ford was based upon grouping the development about the historic central part, connecting it with the exterior portions by spacious traffic arteries. The fact that so much of the town had been destroyed made it all the easier to plan for such thoroughfares, although there was stout resistance to the disturbance of both sentimental and property interests, even where no trace remained of the buildings that once stood upon the sites.

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England is offering Housing Bonds in a great national loan for home building. The illustrations show two of the posters used in advertising the loan for London's housing undertakings, which involve many millions in money, and the building of a small overflow city, as a first step in decentralization of population.

The Greater Paris Competition

(*Continued from page 333.*)

center of Greater Paris. Its relation to the whole urban agglomeration is well characterized by the fact that some of the competitors, for good reasons, have proposed to erect new great railway terminals in its immediate vicinity, the old railway terminals then being reserved for the suburban and local traffic exclusively.

The Great Railway Terminals and the Revision of the Street Plan

Any changes in the location of the great railway terminals will, of course, greatly affect the problems of the street plan. Such conclusions in regard to the revision of the street plan at which the competitors arrived, were accordingly very much determined by their handling of the problem of railway terminals. This phase of the traffic problem did not, as far as the writer knows, receive any attention before the war, and the preliminary projects for the revision of the street plan framed by the Commission d'Extension de Paris did not envisage changes in the position of the great railway terminals. However, the necessity of combining these two aspects of the traffic problem is evident, just as is the special difficulty of providing for the indispensable unified handling of the railway problems. Less difficult to overcome is the lack of an up-to-date comprehensive survey of Paris' street circulation, a survey which should have preceded the competition, and the lack of which has been a handicap to the competitors.

In speaking of the revision of the street plan, it seems pertinent to emphasize the belief that the idea of one central railway station or of centrally situated railway terminals is an incongruous one in a city the size of Paris. In reality, the centralization of railway terminals may still be advantageous in a city of 500,000 inhabitants; in a city of 2- or 3,000,000, it mainly serves to increase that congestion of the center which should be counteracted as much as possible. In the physical structure of a city such as Paris, the solution of a wide "perimeter of radiation" very naturally suggests itself, involving the placing of the great railway terminals on a perimeter considerably distant from the physical center of the city—such a perimeter, for example, as the fortification girdle in Paris and its encircling military zone. If these terminals are properly connected with each other by means of subterranean railway lines; if, further, a well coordinated system of local railways is put in connection with them; and if, finally, the replanning of the street system has the position of the railway terminals constantly in mind, there should be some guarantee for attaing that distribution and dispersion of traffic which is to be aimed at. Several of the competitors, in a more or less definite way, have suggested a solution of this kind, placing the great railway terminals in the immediate vicinity of the present limit of the city, and the first prize-winners, in the comprehensive competition, expressly reject the idea of a great central railway station. Only in one of the comprehensive projects found worthy of being distinguished with a prize was this idea put forward.

At present all the great railway terminals of Paris, except one, are situated on a circuit of about three miles diameter. The city within the fortification girdle may thus be said to be made up of an inner zone inside this circuit and an outer zone between this circuit and the fortifications. If we regard the whole urban agglomeration, then a third zone, embracing the suburbs, has to be taken into consideration. If we ask in which of these three zones radical improvements of the street plan are most needed, it is not, as one would be inclined to believe, in the innermost zone. Great as the need of certain improvements in this zone may be, it is even greater in the two outer zones, which still are divided by the fortification girdle. It is in these areas that the problem of the new railway terminals will have to be solved. Here the necessity of creating broad radiating traffic arteries especially imposes itself, the new location of the railway terminals being a decisive factor in determining the position of some of these radials.

In the preliminary projects for the improvement of the street plan which were framed before the war, scarcely any attention seems to have been paid to this phase of the traffic problem. No new radiating traffic arteries were suggested, nor was any improvement of the existing ones proposed. A more peripheral position of the railway terminals was not at that time taken into consideration nor did the planning overstep the limit of the fortifications, which circumstances serve to explain this deficiency in the preliminary plans. On the other hand, this important need has been duly emphasized in the projects of several of the competitors, in consequence of their comprehensive dealing with the problems.

Some Consequences of the Lack of Foresight and Comprehensive Planning

Some of the main roads that radiate from Paris are at present in a condition prohibitive of rapid tramway traffic. At certain points in the suburbs, they are altogether too narrow, and this narrowness singularly contrasts with the exaggerated width of many secondary streets in the peripheral areas of the city. The too great width of the latter is as much a failure in planning as is the too small width of the former. The deficiency of radiating arteries indicates that the development of the city and that of the suburbs have been proceeding separately. It is, in other words, one of the most conspicuous evil consequences of the lack of comprehensive planning.

Under the state of affairs of which these conditions are a result, city planning as it is being understood today, has been out of the question. On the part of the city, there has been no extension policy, no land policy, no housing policy in the true sense of the word. The city has occupied itself with its streets, its parks, its sewers, water mains, inner communications, building restrictions. Beyond its limits, the suburbs have in a similar manner, each disregarding the existence of the others and of the city, attended mainly to the streets and their accessories. It has been a veritable negation of the idea that a city can live and develop healthfully only if regarded as an organism, for the disorder and unhealthiness of one of its parts affect the health and vitality of the whole body. Unusually bad housing conditions have arisen, because in an urban agglomeration managed in so irrational a way, city planning has necessarily failed to achieve its main purpose, the proper housing of the people.

The New Departure

All the more significant are those signs which indicate the approach of another and better state of affairs. The foundations for the greater and yet better Paris of the future are about to be laid, this process of development involving municipal reorganization and consolidation, unified extension planning along truly constructive social lines, unified public exploitation of the public means of conveyance. Initial steps have been taken with the last mentioned aim in view, the question having been studied by a special commission. Its proposals implying the acquisition by the Department of the Seine of the 43 autobus lines and the 117 tramway lines, now exploited by private companies, will soon be acted upon.

Scope and Significance of the Competition

Finally, the Greater Paris competition has proclaimed the advent of a new era in the development of Paris. The competition having been based on intercommunal and interdepartmental agreements, the competitors have been at liberty to extend their efforts beyond the limits of the Department of the Seine. They have been called upon to devote attention to every phase of urban development. So far, we have touched only upon some of the questions with which they have had to occupy themselves, but others will have to be mentioned before we proceed to review the projects. Great interest is attached to the various proposals regarding zoning, in the suburban areas. Industrial districts have been indicated by several of the competitors. Interesting suggestions have been made aiming at a rational grouping of residential districts for industrial workers, while the problem of developing garden suburbs to answer the various needs of different classes of the population has received ample consideration. It has been proposed to develop great suburban areas into exhibition and pleasure grounds and into a special "university city." Vast suburban cemeteries have been planned. Extensive grounds for suburban hospitals have been set aside. The problem of providing spaces for the needs of aerial traffic has been dealt with. The problems of the railway communications have been carefully studied, especially so by the first prize winners, in the comprehensive section of the competition. The important problem of providing Paris with harbor facilities answering its needs has been duly taken into consideration. Finally, the paramount question of securing the food supplies necessary to the immense city of the future has been well taken care of by several of the competitors.

What has been said may be sufficient to prove that the competition has been a truly "comprehensive" one. Before reviewing its results, it remains to be mentioned that a special commission, composed of the prize winners, has been formed to serve as an advisory council to the "Direction de l'Extension de Paris" in its laborious task of evolving those comprehensive extension plans, the intended framing of which has been the *raison d'etre* of the competition.

(*To be continued.*)

A Congress of the Building Industry

The report of the Post-War Committee on Architectural Practice dealt at considerable length with some phases of the building industry in the United States and recommended that the Parliament of the Building Industry in England be studied with a view to the possible formation of a central affiliation of the building interests in the United States. The Convention of the American Institute of Architects held in Washington in May recommended the question to the consideration of the Board of Directors of the Institute and therefore, coincident upon the meeting of the Executive Committee of the Board at Atlantic City early in August, a preliminary conference was held for the purpose of discussing the advisability and the feasibility of some national conference of the building industry in the United States. At this preliminary conference there were present some fifty men serving variously in the industry who volunteered their time and effort at the call of the Institute. As a result of the first evening meeting a small committee of ten was appointed to meet the next morning, to draft an invitation for a larger conference to be held in Chicago in September. The personnel of the small committee was as follows:

John H. Donlin, President, Building Trades Dept., American Federation of Labor.
A. P. Greensfelder, General Contractor.
Henry H. Kendall, President, American Institute of Architects.
Robert D. Kohn, Architect, New York City.
W. G. Luce, General Contractor, Chicago.
General R. C. Marshall, Jr., Gen'l. Mgr., Associated General Contractors of America.
Thos. R. Preece, Vice President, International Union of Bricklayers, Masons and Plasterers.
E. J. Russell, Architect, St. Louis.
Wm. J. Spencer, Executive Sec'y, Building Trades Dept., American Federation of Labor.
Col. John R. Wiggins, General Contractor.

Organizing Committee.

Robert D. Kohn, Chairman *pro tem.*
Wm. Couper, Secretary *pro tem.*

The above committee then organized with Mr. Kohn as permanent chairman and with Mr. Couper, Mr. William J. Spencer, and Mr. Charles Harris Whitaker as Executive Secretaries. Mr. Couper acted as Secretary of the sessions held.

As a result of these activities, the following letter has been addressed to representatives of various elements in the building industry:

At a meeting at the Chalfonte Hotel, Atlantic City, N. J., on August 6, 1920, representatives of many elements of the building and construction industry discussed the advisability of founding a congress for the promotion of the industry by harmonizing existing

differences of opinion or establishing new methods of procedure. A committee of ten (the members are indicated above) was appointed to select a representative organizing committee which would in turn convene the said congress. The action taken at the meeting is embodied in the following resolution, which was adopted:

WHEREAS, the history of all civilization links periods of prosperity with those of great building and construction activity, and

WHEREAS, the building and construction industry is now facing difficulties which are seriously retarding national progress, and

WHEREAS, this condition is not for the best public interest because of unemployment, congested habitation and insufficient facilities, and

WHEREAS, it is believed that the solution of problems locally or from the standpoint of any single element, without the concurrence or counsel of the other elements, cannot remedy the chaotic conditions now existant.

Now, therefore, be it

RESOLVED, (*a*) That a committee of representatives of the interested elements meet at Chicago on September 27, 1920, to convene a congress to provide the ways and means of conducting such a study to the end that the various factors which have retarded necessary building and construction may be eliminated; and

(*b*) That a thorough study be made of the relations of the various elements and industries which enter into building and construction activities.

(*c*) That a building and construction congress be permanently established to give continuity to the nationally beneficial objects which gave it birth.

The Congress which thus seems to be assured for September in Chicago will face, as its first step, a fairly simple task. It is asked to meet for the purpose of finding ways and means: first, for making a thorough study of the building industry as a mechanism in which there are many parts, in order to find out the precise nature of the difficulties that now render it so largely inoperative; and second, after discovering the nature of these difficulties, to find ways and means of eliminating them.

This is sound procedure. The building industry does not know what is the trouble with it. There are a thousand minds as to what is the matter and as to what to do about it. The first thing to do, then, is to find out actually what is the matter, and to that end the Congress should provide the ways and means for getting at the facts in the case. It should not be led astray by any schemes for improvement or by any of the patent pills and plasters advocated by the self-appointed quacks. It should set itself resolutely and deliberately to the work of getting the best diagnosis that skill can supply, and then, and then only, should it undertake to prescribe for the patient.

As we have already pointed out editorially, this is a momentous opportunity for the architect. His skill and training, his broad viewpoint of the industry as a whole, his impartial position as a professional serving all interests faithfully, qualify him to be of indispensable service in carrying out the study which is so desperately needed at this moment. In no movement ever organized for the promotion of building has there been such a chance for him to demonstrate the nature of his professionalism. It is perhaps not risking too dangerous an assertion in predicting that the success or failure of the movement will largely depend upon the part played by the architectural profession.

Housing in New York State.

The Governor of New York State has called a special session of the legislature to deal with the housing shortage in the State, and especially in New York City. The history of building perhaps records no event so significant. A great State and our greatest city have reached a point where they cannot begin to house their population. It is true that a large section of that population has never been adequately housed, but this social malady has taken a new turn and threatens to become a very serious question

But in the face of a crisis of this kind the interested observer cannot but smile at the childish gestures and rather frantic outcries of the world-renowned metropolis. It is not that the child cries as with the cholera morbus, but that the child exhibits every outward appearance of believing that it is the victim of the first case of cholera morbus ever visited upon a human community. It prattles away about all sorts of pills and plasters, just as though the pathology of social ills was an unknown history. Its wise men utter solemn adjurations; its bankers and money-lenders explain the theory of interest and capital; Senator Calder's special Senatorial Committtee earnestly counsels tax-exemption for loans and new houses, and a reduction of building standards; the tenement house commissioner is reported to have advocated municipal housing with no provision for heat, on the ground that heat is now too expensive to be included in what is commonly called housing; a Mr. Hirsch offers an erudite way of building single houses at $10,000.00 each; and the newspapers generally reveal the hopeless ignorance which characterizes their treatment of these economic questions.

One concludes, from reading and listening, that the legislature of New York may take some action in the housing matter, but from present appearances that action will be based not upon the housing needs of the people but upon the financial needs of those who control the agencies upon which the building of houses is at present dependent. This is a sorry prediction to make, but no other is possible. The splendid report of the Housing Committee of the Reconstruction Committee will very likely be wholly ignored in favor of the tears and lamentations of money-lenders, speculative builders and landlords. But the case will not end with this trial. Let us hope that before too many appeals are taken by a houseless people, some glimmers of intelligence may pervade our present dense ignorance on the causes of the malady which is now growing to such annoying proportions.

For it is not at all unlikely that before any cure can be found the nature of the malady will have to be discovered and thoroughly understood. What are commonly called cures today are no more than palliatives. Most of them will produce a future aggravation very much worse than that of the present. Indeed, it is a sad commentary upon our boasted intelligence that the press of our country, almost without exception, persists in treating the housing question as though it were a separate and detached symptom and quite unrelated to the general decline in production and the declared purpose of financial business to keep prices up by keeping the supply of necessities down.

Also, more people in New York City is an unthinkable condition to one who really knows the city as it is. B.

Book Reviews

The Foundations of Classic Architecture. By Herbert Langford Warren. Macmillan & Co., 1919.

This is a distinctly valuable contribution to the literature of classic architecture, a literature small in numbers and generally poor in quality. There are, to be sure, numerous restorations well presented and as a rule fairly accurate, and these are now supplemented by interesting photographs of the material that remains; but the actual literature of the subject is confined to bald, general and historical statements and to the monographs of the archaeologists. The works are either frankly popular or obstrusely archaeo'ogical. The latter are naturally the best, but they fail of conviction because the writers are not architects themselves and cannot put themselves in the position of the actual designer.

The present volume dose not fall exactly under either category. It contains a great deal of historical information which could be presupposed to be in the possession of the advanced student and it also contains a wealth of detail which is quite beyond the comprehension of the interest of a lay reader. It does not advance any new facts or any novel arguments, nor does it go very far into the why of things. In the many reviews of the book that have been published, the reviewers have generally, either through ignorance or in default of any other salient points, siezed on the statements that there are "two classes of form in all architecture,"—the primary which have been developed altogether in the material and in the mode of structure in which they appear, and the secondary or derived forms; and also that there are three main structural functions,—footing, support and crowning. There is nothing particularly novel about either of these statements.

The real value of the book lies in the fact that an unusual amount of information carefully collected from authoritative sources has been compiled in one volume, in a very logical and readable way. It is handsomely printed and the illustrations are generally good, particularly two drawings of the Parthenon by Harold B. Warren.

The book might have been better if the elementary information the writer deems necessary had been contained in foot notes or in a glossary, rather than embodied in the text and it would have been a distinct advantage and also a rather novel feature if a series of careful maps were inserted in their proper place. Even the advanced student is apt to be hazy on ancient geography.

In his discussion of the derivation of the Doric order, Mr. Warren is rather vague. He brushes aside the theory of a wood prototype for the Doric column with the statement that anyone can see it is distinctly a stone form and while he discredits the wood derivation of the entablature, he acknowledges that the triglyphs "may possibly, as a motive, have been remotely suggested by the appearance of the side of the Mycenean beam construction." He quite completely fails to appreciate that the theory of the wood origin does not imply an absolute reproduction in stone of a former wood structure. The theory merely is that the motive was supplied by the primitive construction, and that this applied quite as much to the column and to the rest of the entablature, as to the triglyphs. He clings to the idea that the primitive wood column in Greece was similar to the inverted Mycenean column, and that the wood columns of the Heraeum were of this type, without a thought of the ridiculous appearance presented by a temple so constructed; a many legged billiard table would be the only simile.

However, the book is a very valuable contribution and it is greatly to be regretted that Mr. Warren's death prevented the completion of the entire work of which this was to have been the first volume. E. S.

A Model Housing Law.—Revised Edition 1920. By Lawrence Veiller, Russell Sage Foundation, N. Y. City.

The Joke About Housing. By Charles Harris Whitaker. Marshall Jones Co., Boston, Mass.

Mr. Veiller and Mr. Whitaker are advocates of better housing—hence the two books. One might assume under such conditions that what they have to say about the matter would now and then coincide or at least run parallel in the course of their arguments; or, this failing, that there would be a collision of ideas. But nothing of the kind occurs; the two arguments from the outset run in opposite directions.

Before Mr. Veiller gets into his argument he indulges in this little dig at those whose point of view fails to coincide with his own: "How delightful it would be to be able to believe that all that is needed to bring about the proper housing conditions is a change in the economic status of the working people * * * Flying carpets, wishing caps, and magic philters have from time immemorial had indescribable charm for humanity." Further on, a modicum of value is assigned to the opinions of others, and Mr. Veiller acknowledges grudgingly that hoped-for results may possibly be sought in other ways. Still further on, however, these other ways are dismissed as of no consequence and it is stated that "the housing problem is therefore essentially a problem of preventing people from maintaining conditions which are a menace to their neighbors or to the community." So, it appears, it is largely a matter of framing legislation against privy vaults, lack of water supply, dark rooms, filthy and foul alleys, damp cellars, basement living rooms, conditions of filth, cramped and crowded quarters, lack of privacy, inadequate fire protection and the too intensive use of land, and so on.

Mr. Veiller places housing in the same category with food and clothing and says: "The method to be employed in securing the right kind differs in no essential respect from the methods to be followed in providing the right kind of food and clothing for that community," and he bets, for example, on securing pure milk for babies by legislation aimed at preventing the distribution of impure milk. Apparently Mr. Veiller does not appreciate that what is considered an ideal condition of trade is expressed by the phrase "too much milk to sell but not enough to drink," and that this condition is not at all likely to be removed by restrictive legislation.

Staking everything upon restrictive legislation, it follows that other methods of approaching the problem

must be deprecated at least by implication. So they are; and the matter is summed up thus: "We must get rid of our slums before we establish Garden cities; we must stop people living in slums before we concern ourselves with changes in methods of taxation. We must make it impossible for builders to build dark rooms in new houses before we urge the Government to subsidize building; we must abolish privy vaults before we build model tenements. When these things have been done there is no question that effort can be profitably expended in the other directions mentioned."

Following the introductory notes, one finds the whole subject of restrictive legislation treated exhaustively and minutely under various familiar heads. It is not to be denied that the subject of Restrictive Legislation is clearly presented—from the author's point of view. How to attack the problem, what to do next, is all definitely set forth, argued and explained.

The volume, particularly the introductory notes, expresses quite accurately what is generally understood in America as Housing Reform. Perhaps the most illuminating statement in the entire volume, expressing as it does what may be said to animate this sort of Housing Reform, is that made with respect to the economic status of the worker. This factor is dismissed quite as if it had no bearing upon the question. Almost as astonishing is the idea advanced that economic and industrial action aimed at improving conditions *must wait* upon the time when we shall have succeeded in removing privy vaults, and such, by restrictive legislation!

The writer has no intention to speak lightly regarding the need for rigid restrictive legislation—under present conditions. With financial business exercising complete control over the use of our land and our resources and the production of useful things, restrictions of the sort suggested are no doubt necessary. Whether or not the same need for restrictive legislation would eventually fall away under a system of production which was animated by the idea of producing for use rather than for profit, or with a view of exchanging goods and services in equity, is a question which need not here detain us. And so we come to what Mr. Whitaker has to say about the question in "The Joke About Housing."

Unlike Mr. Veiller's argument, and unlike most of the talk about it, Mr. Whitaker's argument runs to affirm that a change in the economic status of the worker would be equivalent to much more than what Mr. Veiller dubs "the wave of a necromancer's wand." It also runs to affirm that no gain is likely to accrue, within this field of interest, from the application of the palliatives which have come to be reckoned as measures of reform, so long as our present system of financial business stands firm upon its present base.

The greater part of Mr. Whitaker's statement is given over to an inquiry into what has caused the present conditions of mal-adjustment in which congestion of population and the existing conditions of housing stand as a physical evidence. In view of the nature of what has been written about this subject, this emphasis upon inquiry into the reasons why is no less than a radical departure; for the bulk of housing literature has had to do with what has been done about it. One cannot read Mr. Whitaker's remarkably interesting and well written statement without coming to the conclusion (at least this is my hope) that Housing Reform has thus far failed to acquaint itself with the nature of that problem which it set out to solve.

Those who want to "do it tomorrow" are offered no absolutely certain formula; the solution of the problem is presented as a matter which involves no less than a thoroughgoing change in our financial business system. Hence it is safe to assume that for some time to come the book will be looked upon as a stranger in the household of Housing Reform. For within the household it is not rated as good policy to speak plainly about unearned increment in land, or of our system of financial business, or of vested interests. These matters are not to be discussed except in whispers. But Mr. Whitaker makes it plain, notwithstanding all that has been said to the contrary, that there is not much likelihood of our securing any gains until these particular matters have been dealt with.

Some will no doubt assert that he lays too much stress upon the idea that the solution hangs upon the disallowance of speculation in land (and I take it he would include under this head natural resources.) Possibly this single subject is over stressed. But relative emphasis is a matter of little importance. What is of importance is that the subject of Land and Profit and Speculative Adventuring has been intimately connected with Housing in the sense of cause and effect. The importance of this change of base, so to speak, in approaching the problem can not be overrated, for if Mr. Whitaker has correctly stated the nature of the problem, it follows as a consequence that the solution is not at all likely to be found in any of the heretofore proposed remedies.

And again his argument may be criticised on the ground that he offers no so-called "constructive program." True enough. But the reason for this omission is contained in the nature of the argument itself. For, suggestions to be rated as "constructive" must run in accordance with our habits of thought and the entire body of law and custom which have stood firm during the recent past; proposals must not run in terms of Change. Thus it follows that any argument which acknowledges that we have come to a point where a break with the past is likely to occur and which aims at formulating action in terms of Change, is not likely to be looked upon either with favor or as a solution, although it may point the only possible way of escape with a minimum of suffering.

This bears upon the two arguments in this respect. While housing reform may be content to wait upon restrictive legislative action and what not to relieve congestion and clear away the slum, that is no valid reason for assuming that economic industrial action will wait that long—particularly since we are beginning to lose faith in reform which alters things not at all.

And why we are losing faith in reform is disclosed when Mr. Whitaker explains the title of his book:

"THE MORE HOUSES WE BUILT in the United States,
the more houses cost to build,—so
the poorer grew the quality,—so
the smaller grew the size,—so
the smaller grew the rooms.

"THEN CAME FLATS AND APARTMENTS.
The more we built, the poorer they grew,
the fewer grew the rooms,
the smaller grew their size.

"AND ALL THE TIME, rents grew higher
and higher and higher.
And the process still goes on
as far as rents are concerned,
and will still go on, unless—

"IS IT A JOKE? Or do you still think that
we must continue to live in houses?"

All of which is true enough as everyone knows who has been faced with the problem of designing houses of the class under discussion. For the architect's function is not at all that of using his brains to design adequate habitation; his function is that of designing a structure which will adequately function as a source of profit to the owner. To fail in this respect under present conditions is to fail utterly.

And it happens that we have now reached that point in our evolution, or our progress, or whatever it may be called, where the discrepancy is so great as between what the average man can pay and the economic rent which must be charged in new structures, that the game of building habitations is completely blocked. In the face of such evidence, it appears as no less than a gratuitous activity to discuss this subject in our time-worn terms and phrases. They have no bearing whatsoever upon the problem before us. It is precisely why Mr. Whitaker abandons these time-worn terms and phrases in his study which makes his book a very notable contribution to the subject at this moment.

Not only this—but it is also a notable contribution in that Mr. Whitaker has been able to present the argument as an economist in the language of one who has a good story to tell and who knows perfectly well how to tell it. In view of what he has to say—the title is a fairly accurate way of suggesting what is in the book.

F. L. A.

The Natural Style in Landscape Gardening. Outdoor Theaters; The design, construction and use of open air auditoriums.

By Frank A. Waugh. Boston, 1919. Richard A. Badger.

The first of these books might more fitly be called "An Introduction to the Study of the Natural Style in Landscape Gardening," for its interest is chiefly in its insistence upon the spirit in which the work of the landscape gardener must be undertaken, rather than in any analysis of the principles, or exposition of the technique of this particular art. At great length, Mr. Waugh emphasizes the fact that the landscape gardener must love the landscape, and seek to understand its special beauty, and even goes so far as to offer exercises by which this deeper understanding may be arrived at. This is the principal value of the small volume, for none of the suggestions given in the first half have any bearing other than upon the need of the gardener for an emotional understanding of the spiritual values of the landscape.

In all this, there is no suggestion that the real task of the landscape gardener or architect is far greater than that of merely loving and understanding the landscape—that of creating works of art, using the most wonderful of all mediums, the surface of the earth. To do this, unless the landscape gardener contents himself with being an amateur and no artist, he must master the technique and understand the principles of the art that, inspired by love, he may bring them to serve the purpose in hand, that of creating in the spirit of the landscape compositions in the natural style, which shall clarify and interpret the beauty and usefulness latent in any given area. This is no slight task, but one of the greatest entrusted to man, and for it, no superficial education will suffice.

Had the verse of Psalms been correctly quoted, it might have brought light to this subject:

I will look up to the Hills!
Whence cometh my help?
My help cometh from the Lord,
Who made Heaven and Earth.

The latter part of the book deals only in the briefest possible manner with minor technicalities of this art, and insists not at all upon the essential sudy of design. For what end does Mr. Waugh discuss the division not the ground, the method of grouping, the use of color and texture, the employment of furnishings? As well might a musician advocate the use of arpeggios, of chords, of crescendoes, or trills as ends in themselves, as a landscape gardener discuss the methods of planting, of grading, of cutting or grouping, unless each of these devices is studied in its relation to the whole design. Mr. Waugh makes no mention of the principles of design as applied to landscape gardening. He speaks as if the grouping of trees in clumps of two, three or more, were in itself the aim of the landscape gardener; whereas, unless the aim be the cultivation of specimens, treatment of trees, as of meadows, of brooks, of open or wooded slopes, it is of no value unless it be used for the conscious purpose of constructing a design, of building a landscape which shall be a work of art. Landscape painters have shown us this truth. They have loved and understood the spiritual significance of the landscape; they have mastered the technique of their art; but more, they have studied and probed the mysteries of design until they have produced works of art which reveal the spirit and the beauty of the landscape often hidden from us by nature herself. This with a far more interesting and complicated medium is the aim of the landscape gardener working in the natural style; or else, why not leave nature alone and merely teach men to love her? Thus the chief value of Mr. Waugh's book is in its use as an introduction to the study of landscape gardening for even with its valuable suggestions, it hardly more than makes a respectful bow to the art itself.

His book on "Outdoor Theaters" is a very interesting survey of some of the outdoor theaters which have already been built in this country, with suggestions for further purposes and uses to which these might be put. It also points out that many more, with advantage, could be built, but in spite of its subtitle, makes no extensive study of the designs or constructions of these open air auditoriums.

M. C. H.

Correspondence.

To the Editor of the Journal:

There are a number of details involved in planning any large building which seem to be, and are, outside the experience of the architect, and call for the advice and guidance of those who will have to use the structure for the elaborate and complicated services of modern civilization. Sometimes, however, those who have been trained to accomplish results by main force, in a routine way, in spite of unsatisfactory equipment, never arrive at the idea that certain difficulties could be greatly simplified and labor lightened by forethought in planning improved conditions, and so, not having thought it out for themselves, they fail to give the architect a clue by following which he could correct the difficulty.

One of these obstructions to the smooth running of many institutions lies in a complication which concerns the night service. Hotels, hospitals, and many other organizations have a regular night staff. In hospitals, in particular, this night service is taken by the nurses in rotation, and they always arrive at the end of their period of night duty, usually lasting a month, exhausted and half sick. They will tell you that it is abnormal to sit up all night and that work done under those conditions has a peculiar effect on the nervous system, from which it takes them some time to recover. This state of nervous fatigue, by making them irritable and impatient, reacts in turn on their patients.

They will also tell you, as a separate proposition, that they cannot get anything like a normal amount of sleep in the daytime because their bedroom is so noisy. I doubt whether this is a separate proposition, whether it is not really the source of nine-tenths of the trouble. The nurses, however, have to stand it whether or no, but in other organizations the night clerk or night watchman is a constant element of anxiety. If he has to try to sleep with the rush of daytime activities clattering in his ears, he is bound to give unsatisfactory night service. If he goes home to sleep, he is in still worse case; no workingman's home or room is quiet in the daytime.

Now, once this question is stated it becomes a simple matter to plan a solution. There should be a specially constructed room or rooms, according to the number of persons employed at night. They should be preferably at the top of the house, so that no one could walk about overhead; but there should be a good air-space above them, and the rooms should be ventilated with an air-shaft from the cellar lest they become too warm. The walls should be carefully deadened and there should be double windows. The air-shaft, too, should be deadened, lest it convey noises from the busier part of the house. There should be an electric fan for really sultry weather. Then, the person accepting night duty should be required to spend a minimum of eight hours in that room, beginning always at the same hour.

Under these conditions I think that the nervous breakdown of the night force would soon cease to be one of the problems of administration, but the best employer is helpless in the matter as long as the architect has not provided him with a quiet, well-ventilated room with which to meet the situation.

A. C. Austin.

François Michel Tonetti.

In the death of François Michel Tonetti, sculptor, the artistic world has lost a personality of amazing charm and picturesqueness.

Temperamental, brilliant and impulsive by nature, fearless and sometimes blunt in his emphasis of the right as he saw it, childlike in his capacity for enthusiasm, saturated with a spirit of devotion and sincerity for his art, often misunderstood and misjudged, but always firmly determined to overcome every difficulty lying in his path, he always stood with dogged tenacity against every adversity, continually serving others while he sacrificed and diasppointed himself. He was frank, simple and many-sided; sensitive to criticism, he strove always to give something in the form of artistic expression that would add to the joy and beauty of the world.

He was an extraordinary character. The contemplation of the life of such an individual defies narrow characterization. One cannot help feeling a suspension of the critical faculty. In striking an average, petty faults are swallowed up in the preponderant wealth of real achievement and worthy service to humanity's cause.

It is unnecessary here to touch on the extent or success of Tonetti's work in the field of sculpture; that is well known and will live and help because of its true value. His influence in the world of professional education will be cherished and guarded by his students and the younger men of the craft, who in turn will pass the torch of knowledge on to others still to come. But achievement and effort and influence are only the mediums by which and through which a personality greater than the mediums is proclaimed. Tonetti was vitally and intensely human and quite apart from the accomplishments of his artistic career he did many spontaneous and lovable things that deserve remembering.

Late in 1914 Tonetti's eyes were set steadily on his beloved France. His whole being revolted and he was stunned by the cruel blow of Germany through Belgium to his native land. In this grief he lost all interest in his work here, and he was determined to go back at all cost and to fight like a man for his country. He was well over age and in poor condition physically, but he tried his utmost to get into active service at the front.

I remember a little incident in connection with his departure that was typical of his general attitude. Fritz Kreisler had just been wounded and there had been expressed some feeling of regret that an artist of such unusual attainments should be exposed to the unavoidable dangers of war. It was argued that a priceless work of art was a national asset and as such it should be carefully guarded, and in like manner a country should protect and conserve its most distinguished artists. Tonetti's impatient comment was that individuals did not count; that if one would contribute things of worth the more quickly should he rush to the defence of the country that made him. I remember he said: "What could be more glorious than to serve in an army made up of Michael Angelos, Leonardo da Vincis, Jean Gougeons, Shakespeares and Christopher Wrens?" And in that spirit he left to take his part in the great war; not for any big thing but for any service he could render.

He was willing to take any chance or risk. But not being accepted for active service because of his age and physical

unfitness, his striving finally landed him at Dr. Alexis Carrell's hospital in Compeigne. He had known Dr. Carrel here and he sought him out there. His knowledge of draughtsmanship and the practical use of plaster made him most helpful in cases of serious fracture that required plaster settings. The irritation that comes from wearing ordinary plaster casts was diminished by his expert hands. Being versed in the subtle art of armatures and delicate structural supports, he devised and made balances and ingenious contrivances for the carrying and supporting of badly fractured limbs during the process of mending and healing.

He worked without ceasing. He had a cheery word for everybody, and patients and nurses adored him. Once a poor fellow was brought in all shot to pieces and a transfusion of blood was necessary. There was difficulty in getting volunteers. Tonetti, in his interest, was anxious to give his blood, but his heart being in bad condition this was not allowed. He was so anxious to help that he offered all the money he had if they would only use him.

And so, without further details, this sculptor, who dearly loved humanity, and wanted to serve it in any capacity, did a modest though important work that will long be remembered and appreciated. Tonetti, above all, had a soul. It is hard to realize that he will never burst in on us again with his cheery smile, his cordial grasp of the hand and his enthusiastic words. In his passing many have lost a valued, true and helpful friend.

—*Donn Barber in the New York Evening Post.*

News Notes.

QUESTIONING the right of the Institute to bind its members to follow the awards of the National Board of Jurisdictional Disputes, the Southern California Chapter, at a special meeting called for the purpose, unanimously adopted the following:

BE IT RESOLVED, That the Southern California Chapter of the American Institute of Architects, commends the desire of the officers and directors of the American Institute of Architects to bring about amicable solutions of questions that arise in the building trades, and welcomes any recommendations of procedure made by them which do not encroach on the rights of any Chapter member; but it questions the expediency of the adoption in Convention or otherwise, of recommendations treating with such a complex and important subject as that of jurisdictional awards, without first having referred the matter to the Chapters for discussion and vote, and without thus giving Chapters the opportunity to be represented in Convention by informed and instructed delegates.

THEREFORE, it is with the greatest regret that the Southern California Chapter of the American Institute of Architects cannot endorse or become a party to the action of the American Institute of Architects in this matter of the "Board of Jurisdictional Awards," and every member of the Chapter whose name is signatory hereto hereby witnesses that he must, and does, refuse to accept, as binding upon him, any authority, action, or decision of the "Board of Jurisdictional Awards," or any authority, action, or decision arising therefrom.

AT THE monthly meeting of the Pittsburgh Architectural Club in July, the drawings submitted in the competition for a treatment of the Arsenal Park Playground were exhibited for the comment of the club. This competition was conducted in cooperation with the Citizens' Committee on City Plan and is the first of what we hope will be a continuous series which will promote the development of the city on more pleasing lines than heretofore.

Seven drawings were submitted, the award placing Mr. William H. King, Jr., in the first place for honors, and Mr. William H. Harold, second. Both of these drawings showed intelligent perception of the problem and merit accomplishment. The chief error in all the designs seemed to be a failure to entirely grasp the essentially safe character of a playground, either as to the necessity of preventing vehicle traffic from trespassing on the property, or the segregation of the sexes in the senior playgrounds, where active supervision was not practicable. In some drawings criticism was directed at the failure to make the most logical use of terrain in the solution of elements such as the grandstands, and in other cases, an over-elaboration of "architecture" in treatments was noted.

On the whole however the problem showed the principal defect of the program, which presented an amount of labor difficult for the average architect or draughtsman to give to it, without neglecting his professional obligations.

Future competitions should be conducted as esquisses pure and simple, where the idea is sufficiently developed without the necessity of undue detail study.—*From The Charette.*

Orbituary.

Jean Louis Pascal.

With the death of Jean Louis Pascal, the notice of which was recorded in the JOURNAL for July, the profession of architecture in France has lost one of its most eminent representants. Up to the very end of his life, Pascal worked with the same enthusiasm, the same clarity of spirit, and the same devotion to all those works of public interest to which he consecrated the greater part of a life already well filled.

To retrace such a career is a task that would demand long study. We may here only indicate the great lines. After his brilliant studies at the Ecole des Beaux Arts and his sojourn at Rome as winner of the Grand Prix, he succeeded his masters, Gilbert and Guestel, as chief of the atelier where he was to teach, for almost fifty years, generations of architects, who are now scattered throughout the world.

Those who were taught by him will remember the lofty spirit in which he gave of his knowledge. Never was he concerned with the mere search for success, but he insisted, on the contrary, upon that artistic probity which grows out of honest expression and constant care for the conditions of execution of the work, at the price of which the work becomes something more than an image prepared for the consideration of a jury. His old pupils always considered him as the best guide they could possibly consult, and as a friend who was interested in everything that touched them.

His professional career leaves numerous very beautiful works which manifest that artistic probity of which we have spoken.

P. P. C.

Structural Service Department

SULLIVAN W. JONES, *Associate Editor*
LEROY E. KERN, *Assistant*

In connection with professional societies, organized bodies, and the following Committees of the Institute, working toward improvements in building materials and methods, and higher ideals in the sheltering of humanity:

BASIC BUILDING CODE, CONTRACTS, FIRE-PREVENTION, STRUCTURAL SERVICE

Crushed Slag Aggregate for Concrete.—The U. S. Bureau of Standards has made tests to determine the value of furnace and foundry slag for use as fine and coarse aggregate in concrete. For purposes of comparison, concrete of local sand and gravel and of the same cement was made at the same time and mix as the slag concrete and of the same consistency judged by the eye. As a result of these tests the following conclusions are published:

1. According to the tests reported, crushed slag as a coarse aggregate produced concrete of as high or higher strength as gravel.

2. The tests are not extensive enough to determine the durability of slag, but to the extent of these tests there were no signs of disintegration due to sulphide sulphur or other causes.

Note. The concretes were tested at periods of 7 days, 28 days and six months. The sulphide sulphur content varied from 0.04% to 1.34%.

3. Slagsand, because of its fine materials, does not produce easily workable concrete when used as a fine aggregate. If it must be used, its working qualities can probably be improved by the addition of small amounts of fine sea sand, hydrated lime or other fine material.

4. Provisions in specifications for slag aggregates calling for a maximum sulphide sulphur content of 1.5% and a minimum weight per cubic foot of 70 pounds are tentatively recommended.

Storage of Cement.—The Structural Materials Research Laboratory, Lewis Institute, Chicago, has published a bulletin (No. 6) on the "Effect of Storage of Cement" by Prof. Duff A. Abrams. The purpose of the tests was to determine the effect of different conditions and periods of storage on the concrete and mortar-making qualities of Portland cement and to study the effect of certain methods of protecting cement in storage.

Tests were made on three different lots of cement. The cements used were mixtures of four different brands purchased from warehouse stocks. The cements were stored in the laboratory, in the basement of the building and in a shed in the yard. Cement that had been in storage for periods up to two years was tested. Tests are still under way and hence the bulletin should be considered as a progress report.

Among the principal conclusions from this investigation are the following:—

Compression tests of concrete and mortar showed a deterioration in strength with storage of cement for all samples, for all conditions and periods of storage and at all test ages. The deterioration was greatest for the samples stored in the shed in yard, and least for the samples stored in the laboratory. The basement storage was nearly as severe as outdoors. The deterioration was greater during the first 3 months than for later 3 month periods. A greater deterioration was found in the tests made at the age of 7 days than at 28 days and later test ages.

After 3-month storage in shed in yard the cement had 80 per cent of its original strength; after 6-month storage, 71 per cent; after 1 year, 61 per cent; after 2 years, 40 per cent. The deterioration was probably greater in these tests than would be found in a larger lot of cement stored under similar conditions.

The effect of storage of cement on the concrete or mortar strength is largely a question of the age at which concrete or mortar is tested. The average concrete strength of cement stored in shed in yard when tested at 7 days (for all periods of storage) is 64 per cent of the strength when received from the warehouse; at 28 days, 71 per cent; at 6 months, 78 per cent; at 1 year, 82 per cent, and at 2 years, 85 per cent. A somewhat similar relation is found for other storage conditions. It is a matter of the utmost importance to note that the strength of concrete is not permanently reduced to the low values found in the 7 and 28 day tests.

For periods up to 1½ years there was no marked difference in the quality of cement stored in cloth and in paper sacks. The two brands of paper sacks gave almost identical results.

Only a slight advantage was found from the protection of cement in cloth sacks which were covered by thin layers of Portland cement or hydrated lime. The results obtained do not justify the cost of this method of protecting cement stored in sacks.

The most favorable storage condition (in laboratory) and the least favorable (in basement and shed) gave strengths of the same order of magnitude; indicating that the possibilities of improving the storage condition of cement in sacks in this climate is rather limited. The storage period and the age of the concrete or mortar at test are of greater importance than the exact condition of storage, so long as the cement is protected from direct contact with moisture.

Storage of cement prolongs the time of initial and final setting. The normal consistency was only slightly affected by storage.

The deterioration of cement in storage appears to be due to absorption of atmospheric moisture, causing a partial hydration, which exhibits itself in reducing the early strength of the concrete and prolonging the time of setting.

This series of tests did not include bulk storage of cement, however. There is reason to believe that cement may be stored in bulk for long periods without materially affecting its concrete and mortar-making qualities.

Dry Rot.—The Forest Products Laboratory in Technical Notes No. 105 publish the following data in regard to dry rot:

The term "dry rot," the Forest Products Laboratory finds, is applied by many persons to any decay which is found in wood in a comparatively dry situation. Thus loosely used the term actually includes all decay in wood, since wood kept sufficiently wet cannot decay.

In the more limited sense in which pathologists use the term, 'dry rot' applies only to the work of a certain house fungus called Merulius lachrymans. This fungus gains its distinction from the fact that it is frequently found growing in timbers without any apparent moisture supply; in reality it does not grow without moisture and is as powerless as any other fungus to infect thor-

oughly dry wood. Given moist wood in which to germinate, it is able to make its way a surprisingly long distance in dry timbers, drawing the water it needs from the moist air, through a conduit system of slender, minutely-porous strands.

Wood in the typical advanced stage of dry rot is shrunken, yellow to brown in color, and filled with radial and longitudinal shrinkage cracks, roughly forming cubes. In many instances these cracks are filled with a white felty mass, the interwoven strands of the fungus. The decayed wood is so brittle and friable that it can easily be crushed into powder.

The dry rot fungus is active in nearly every region of this country, in Canada and in Europe. It is very destructive to factory and house timbers and to logs in storage. Coniferous or soft woods are more commonly infected by it than hardwoods.

In connection with the above, the Forest Products Laboratory Technical Notes No. 91 and No. 100 are of interest.

Technical Notes No. 91 discusses the resistance to decay of various woods used in airplane construction. The conclusions are:

Southern cypress, California redwood and Port Orford cedar proved very resistant to decay. Douglas fir, white oak and black walnut stood fairly high in durability. Spruce, basswood, beech, birch and maple were classed as the less durable. The sap wood of all species was found to decay rapidly. The life of the wood was found to be increased by treatment with sodium fluoride or where color and odor were not objectionable and where the parts were not to be glued by coal-tar creosote.

Technical Notes No. 100 records the service records collected on railway ties and telegraph poles preserved with low boiling creosotes.

Light creosote oils properly injected into the wood will apparently prevent decay until the wood wears out or until it checks so badly that the untreated portions are exposed.

It is stated that unless some other factor than protection from decay is considered important, there is apparently no need to specify high boiling oils. The important point is that any coal tar creosote which is not extremely low boiling or extremely high boiling will satisfactorily prevent decay, and in the selection of an oil, factors such as price, penetrability, and convenience in handling should receive greater consideration than moderate differences in volatility.

Making Wood Fire Resistant With Paint.—"Fire retardant paints are the most practical means so far discovered by the Forest Products Laboratory by which small amounts of wood can economically be made fire resistant. The only other known methods of decreasing the inflammability of wood are to keep it wet, or to inject into it certain chemicals under pressure. These methods though more effective than painting, are usually either impracticable or too expensive to be considered.

"Ordinary calcimine or whitewash has proved in tests to be as fire resistant as any paint covering tried. It is cheap and convenient to use. Although it will not prevent the burning of wood exposed continuously to a high heat, a good coat of calcimine on wood will decrease the danger of a blaze spreading from burning cigarettes, sparks, matches, and similar small sources of fire. Calcimine is, of course, more effective for inside than outside use.

"For exterior use numerous patented fire retardant paints are available. An effective outdoor paint which has been developed at the Forest Products Laboratory consists of linseed oil, zinc borate, and chrome green. This paint has maintained its fire resistant properties through more than three years of exposure to the weather.—*Technical Notes No. 106, Forest Products Laboratory, Madison, Wis.*

Structural Slate.—The Structural Slate Company has published the first of a series of chapters on Structural Slate prepared by the Structural Service Bureau of Philadelphia, Pa.

This chapter describes the principal characteristics of slate, e. g., ribbons, compactness of structure, cleavage, toughness and non-expansion. A brief description is also given of the two gradings, clear and ribbon. The section on Surfaces and Finishes is of especial interest. Sawed edge, split-face, planed, sand-rubbed and honed finishes are each described and illustrated by excellent photographs. The recommended uses for each finish are given.

The publication is an example of serviceable technical literature. It contains much data of value to architects. A larger use of ribbon slate is advocated, and the statement is made that ribbons are in no way detrimental to the strength or wearing qualities of the slate. This statement should have been supported by specific data such as results of authentic tests.

Non-Staining Mortar for Pointing, Setting and Backing.—This standard size booklet by the Atlas Portland Cement Co. presents a clear and interesting discussion of the mortar joint. Particular attention is directed to the importance of hardness, density, quick setting and non-staining. Attention is also directed to the advantage that white cement possesses for producing clear tints with a minimum amount of coloring matter.

No laboratory tests or analyses are presented to substantiate the claim made that Atlas-White Portland Cement will not stain stone work subject to staining by ordinary cement. There is published, however, an exceptionally complete list of buildings in connection with which Atlas-White Portland Cement was used. This list of eighty-three buildings gives the name of the building, the location, the architect, the contractor and the kind of stone or masonry in connection with which Atlas-White Portland Cement was used for either pointing or setting. The booklet is profusely illustrated and these illustrations are well selected. They include the work of many well known architects in various sections of the country. The booklet contains also, suggested specifications for the use of Atlas-White Portland Cement for laying floor tile, setting and pointing wall tile, mortar for backing and setting stone, marble and other masonry, mortar for pointing stone, marble and other masonry and for colored mortar.

In connection with the specifications for tile work attention is directed to the requirement that floor tile, unless entirely glazed, and wall tile, unless glazed should be well saturated with water before being placed, in position. This requirement is at variance with the standard method of setting as published by the Associated Tile Manufacturers. These standard methods required all tile except full vitreous tile to be saturated with clear water. Enameled and glazed tile are coated with the enamel only on the exposed faces and the body of the tile is usually not vitreous. The Tile Association, therefore, recommend that these tiles be saturated with water before being set.